THRIVE MONTGOMERY 2050

Let's Plan Our Future. Together.

www.thrivemontgomery.com

Montgomery Planning

1/21/2021

Worksession #4

Thrive Montgomery 2050 Public Hearing Draft

Agenda

1. **Transportation Analysis Report**

2. **Transportation Themes from the Public Hearing**

3. **Proposed Transportation Chapter**

4. **Preview of Compact Growth Chapter**

Transportation Analysis Report

Key Questions

- **How could the County be impacted by ongoing trends related to the economy, climate change, demographics, technology, and lifestyle choices?**
- **Do these trends support the County's vision for the future, or are policy interventions needed to achieve the County's vision?**

Analysis Approach

- **Evaluate Impact of External Factors**
- **Evaluate Impact of Thrive Montgomery Policies**

Alternative Futures

Why Alternative Futures?

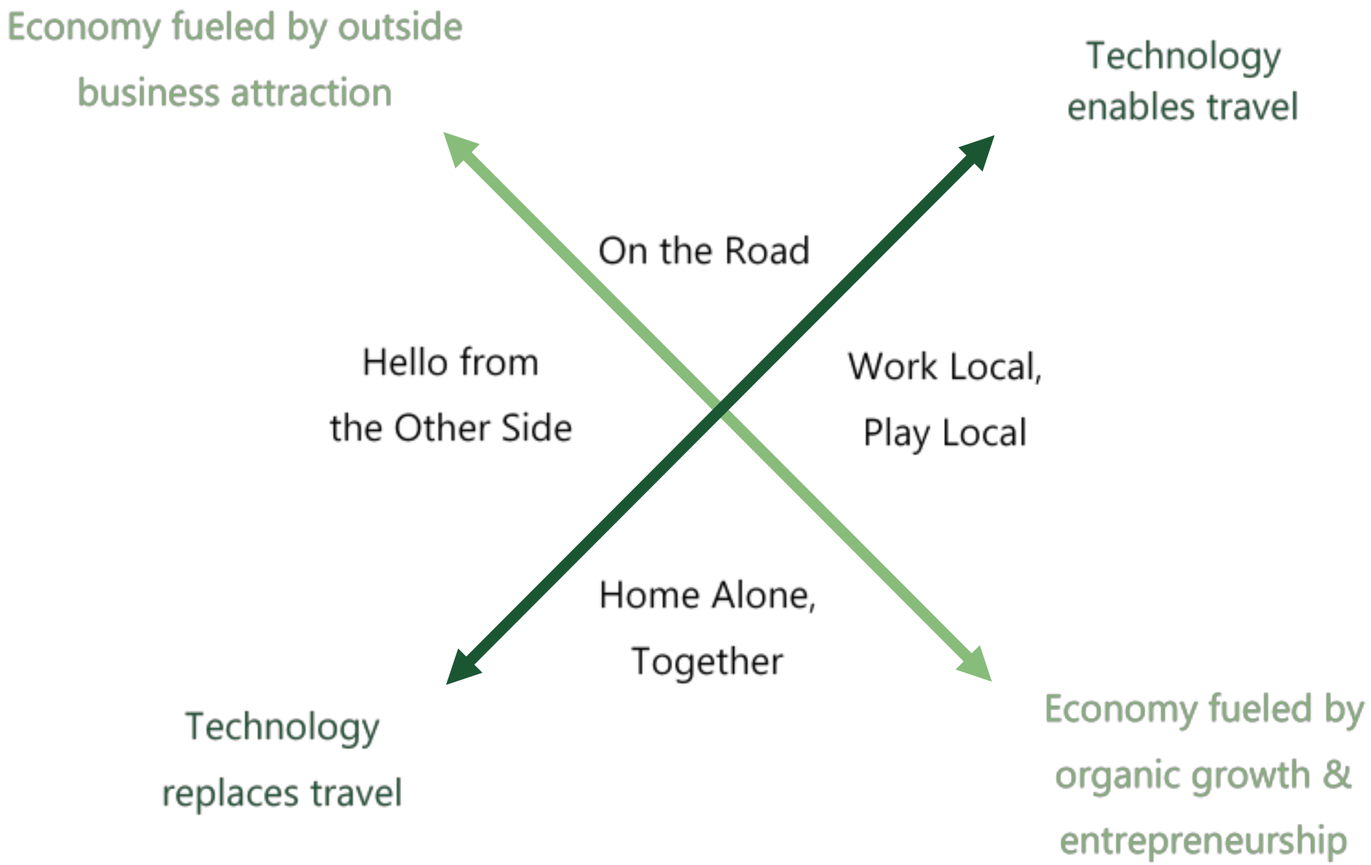
- **Our world is rapidly changing.**
- **Projecting past trends forward is insufficient.**
- **Alternative futures enable us to evaluate very different futures.**

Drivers of Change

Economic Disruptions – Climate Change – Demographic Changes
Technological Innovations – Changes in Lifestyle

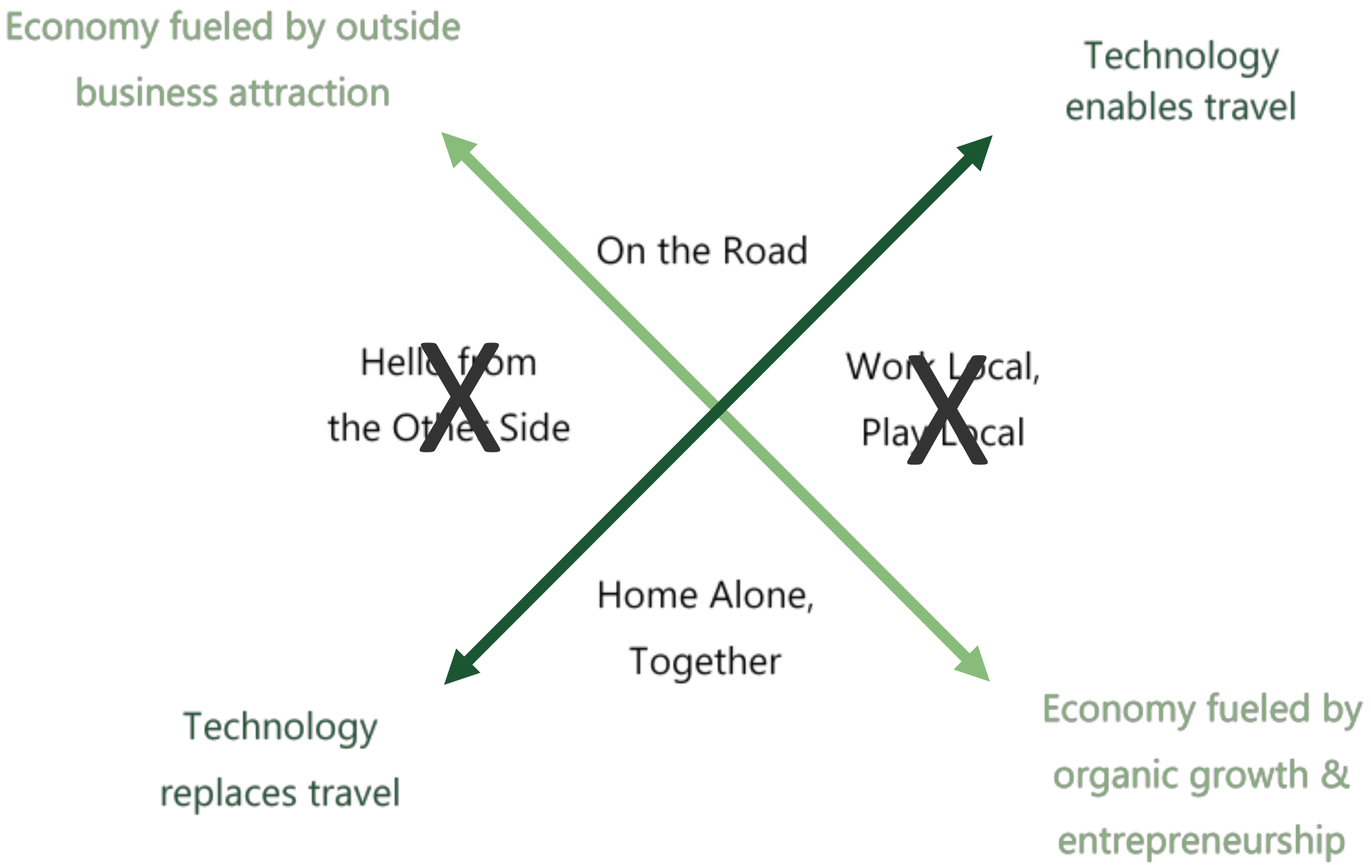
2050 Scenarios

- **Business as Usual**
- **Alterative Futures**
  - **On the Road**
  - **Work Local, Play Local**
  - **Home Alone, Together**
  - **Hello from the Other Side**



2050 Scenarios

- **Business as Usual**
- **Alterative Futures**
  - **On the Road**
  - ~~**Work Local, Play Local**~~
  - **Home Alone, Together**
  - ~~**Hello from the Other Side**~~



On the Road

Residents live in less dense areas and commute longer distances to work.

- **Technological Innovation: people make 25% more trips due to technologies autonomous vehicles that make travel easier.**
- **Economic Disruption: people make longer trips because jobs are focused on specific industries.**
- **Employment Condition: employment growth is much more concentrated in areas with existing office jobs.**
- **Living Preference Condition: household growth is shifted to less dense locations.**
- **Climate Change: development removed from the 500-year flood plain.**

Home Alone Together

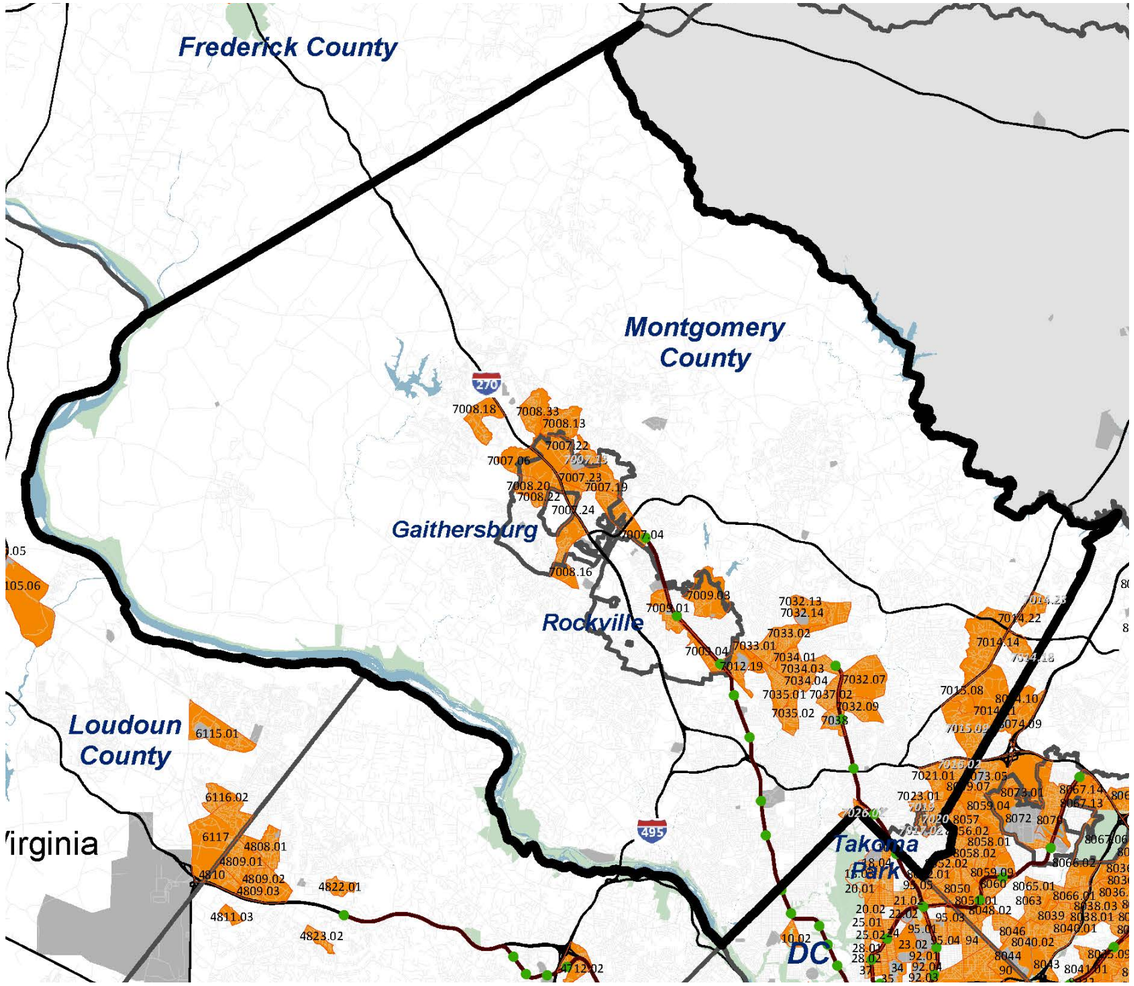
Residents live in more dense locations and can telework at increased rates, while shopping, enjoying entertainment, and eating locally

- **Technological Innovation: people make 25% fewer trips, due to technologies such as teleworking / virtual reality that replace trips.**
- **Economic Disruption: people make shorter trips because employment is growth is in a variety of industries.**
- **Employment Condition: employment growth is concentrated in areas with existing office jobs.**
- **Living Preference Condition: household growth is shifted more dense locations.**
- **Climate Change: development removed from the 500-year flood plain.**

Metrics

- **General Findings**
- **Non-Auto Driver Mode Share (NADMS)**
- **Vehicle Miles Traveled (VMT)**
- **Travel Time**
- **Job Access**

Metrics: Equity Analysis



Equity Emphasis Areas (EEA):

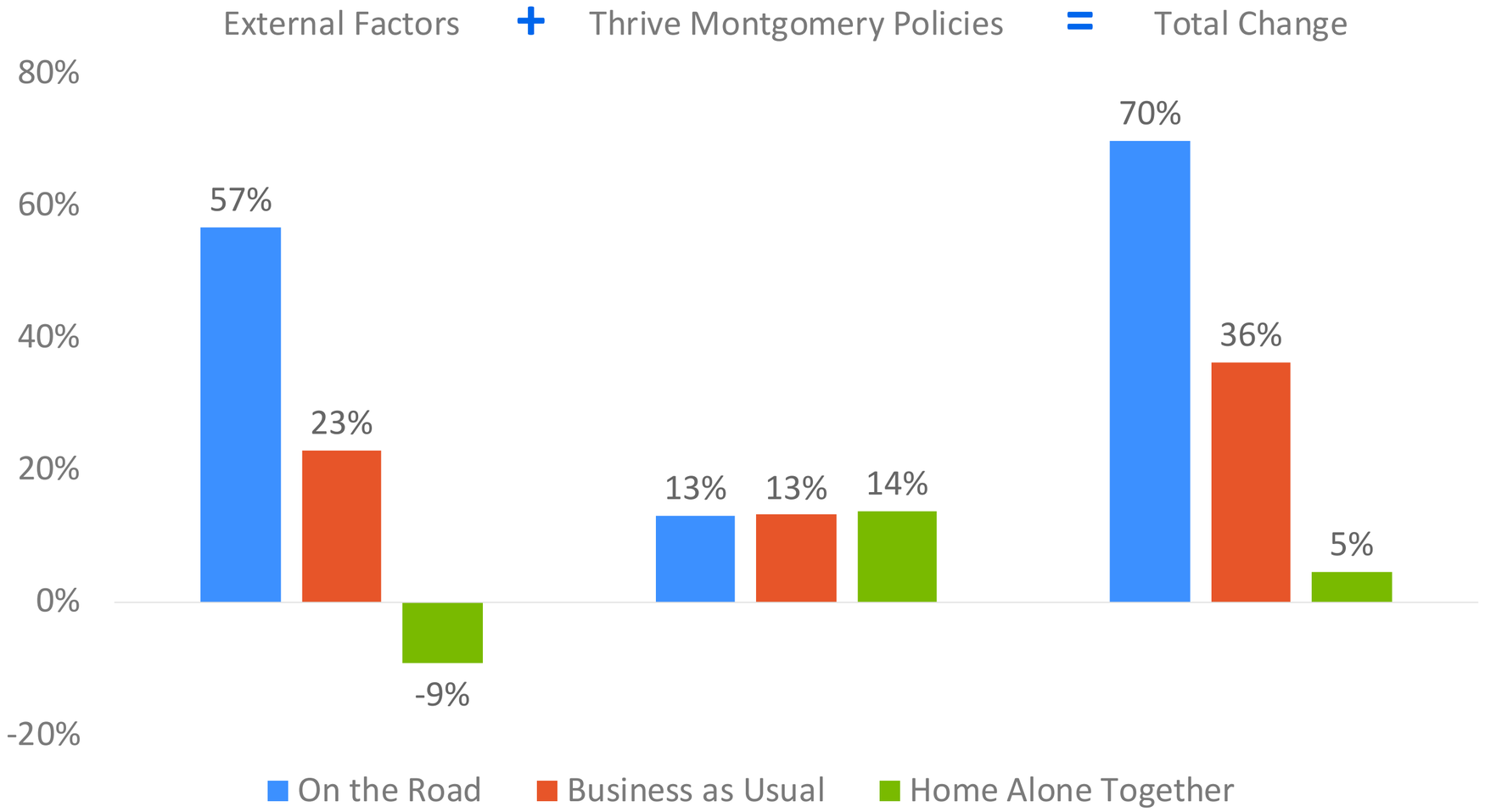
- concentration of individuals identified as low-income that is more than 1.5 x the regional average, or
- high concentrations of 2+ minority population groups, and/or
- high concentrations of 1+ minority population groups combined with low-income concentration at or above the regional average.

2050 Modeling Approach

- **Land use changes**
  - **Complete communities**
  - **Concentration of growth in transit areas**
- **Transportation changes**
  - **Converting traffic lanes to transit lanes on BRT corridors**
  - **Implementation of premium transit (BRT, MARC)**
  - **Improving local bus service (frequency)**
  - **Reducing parking capacity and increasing parking pricing**
  - **Increase auto travel pricing and affordability**
  - **Improve street network/block density**

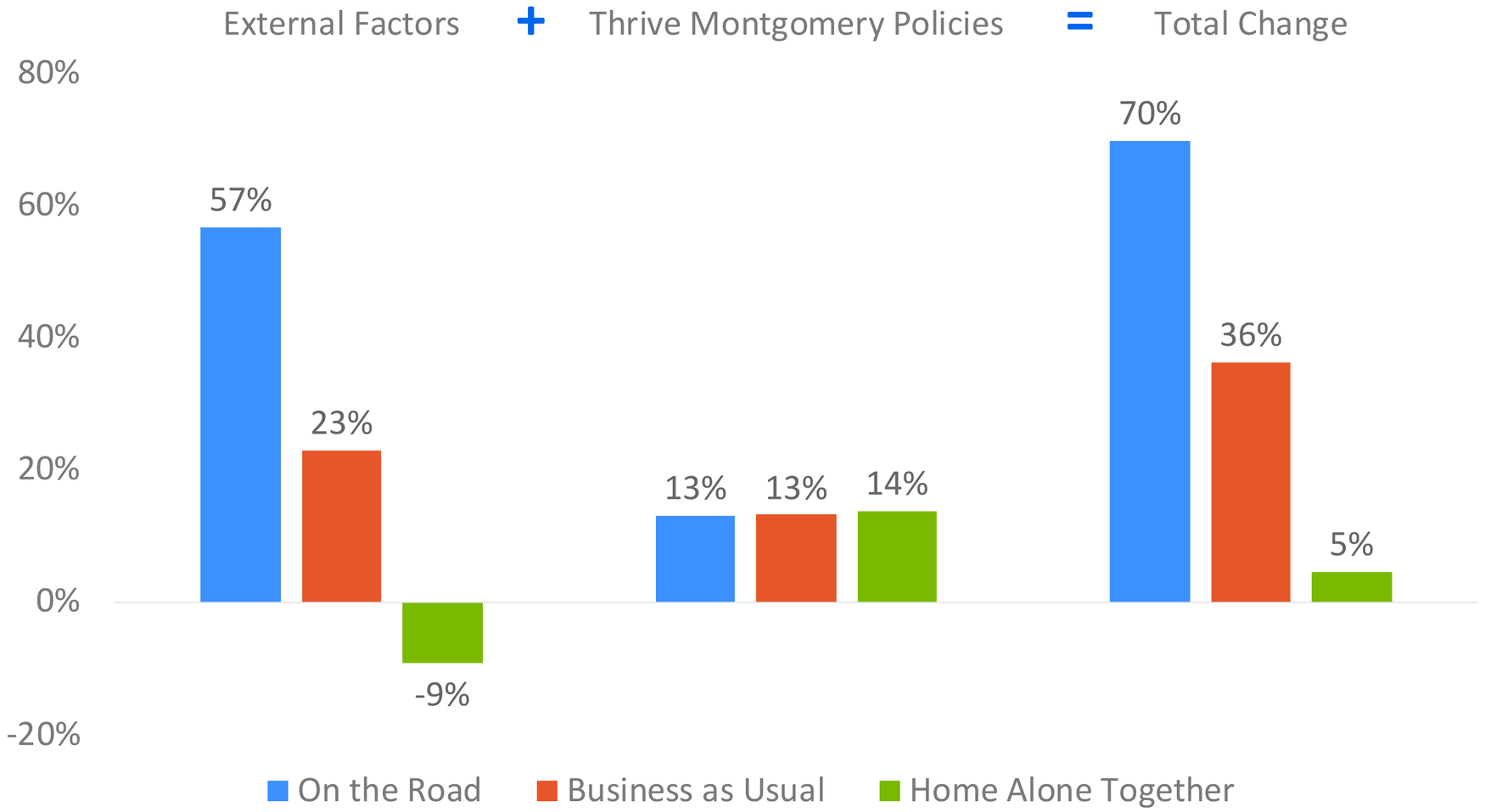
General Findings

Average Person Trips per Weekday



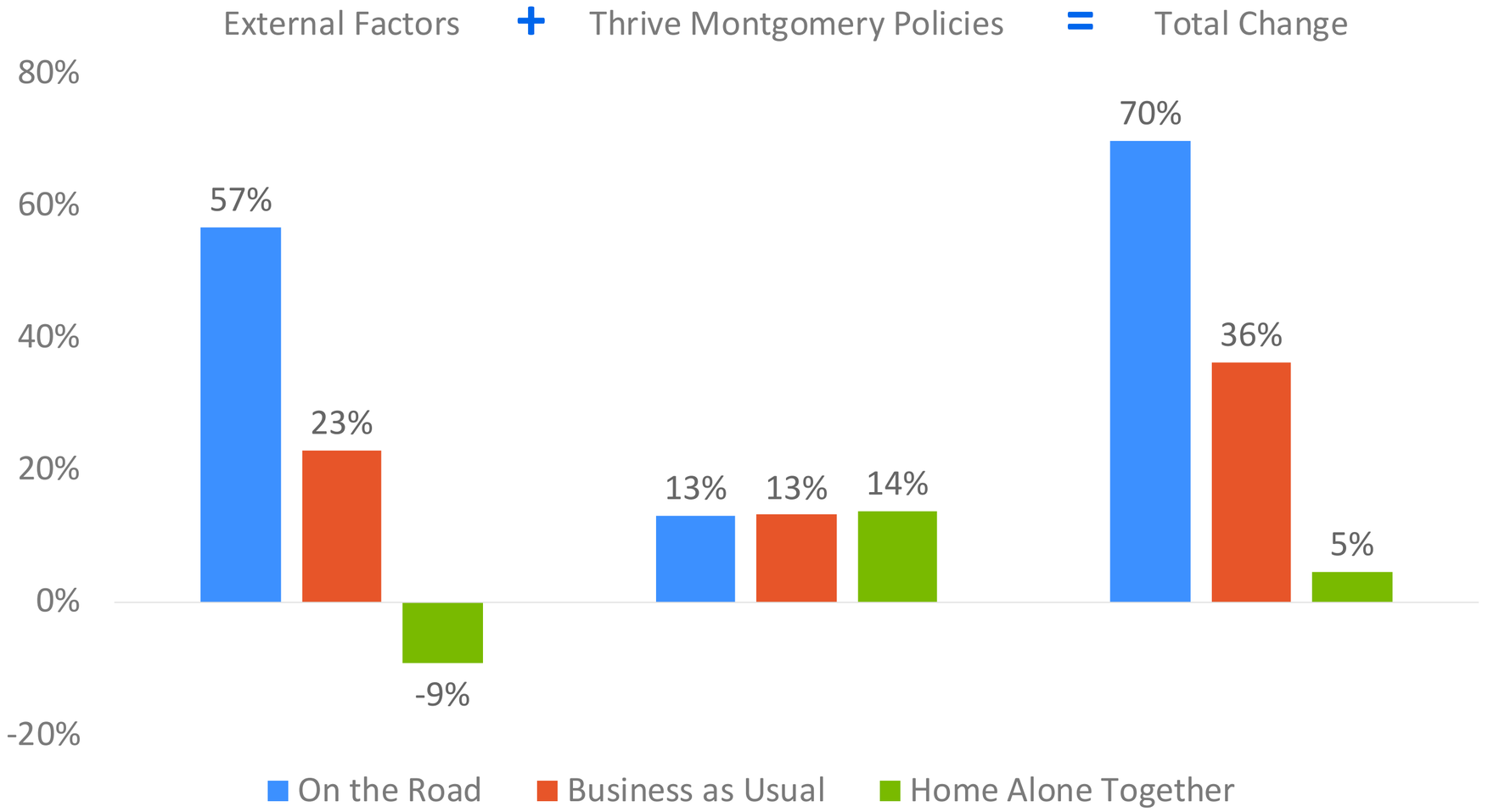
2015 = 3.2-million-person trips per weekday

Average Person Trips per Weekday



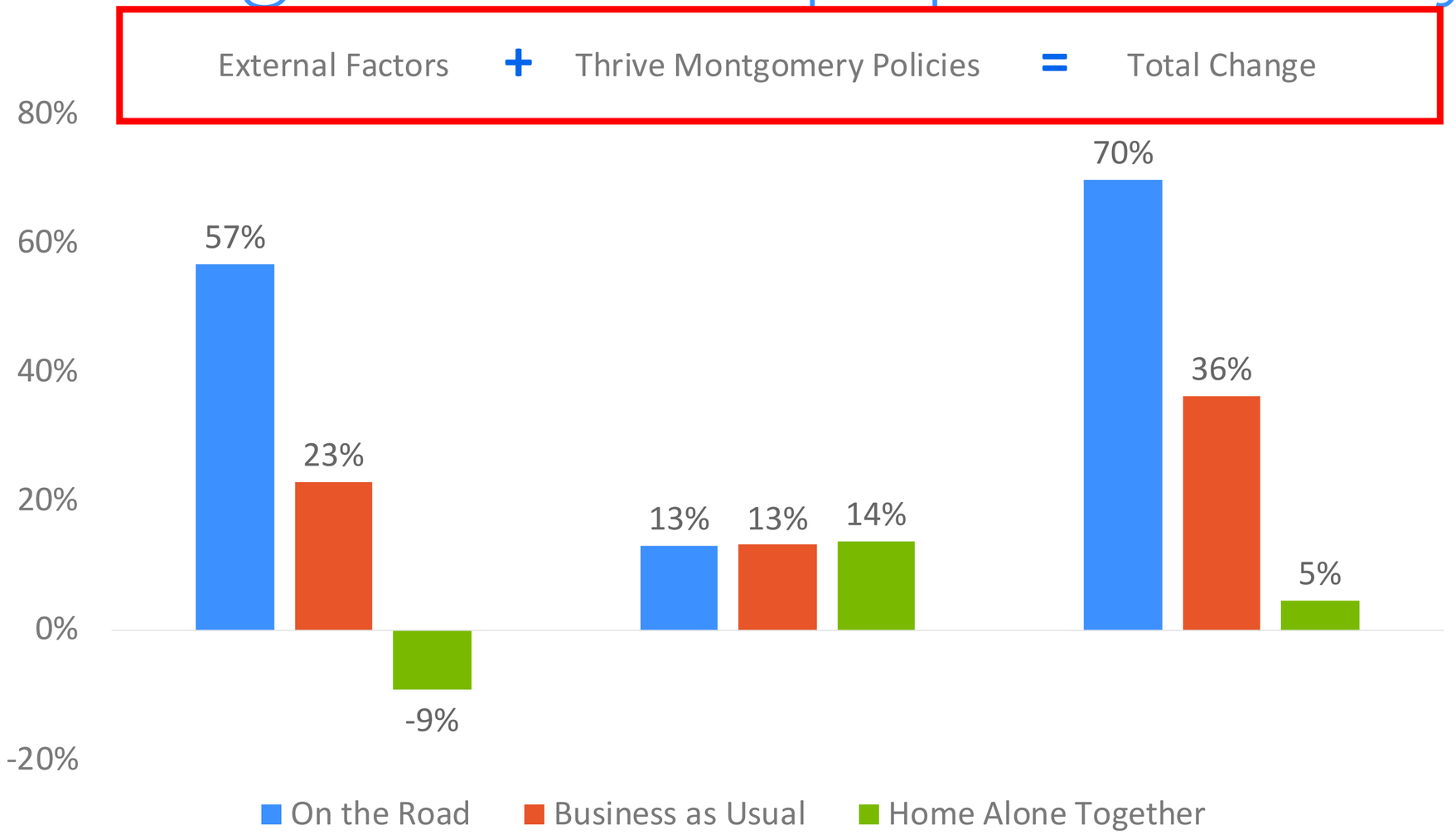
2015 = 3.2-million-person trips per weekday

Average Person Trips per Weekday



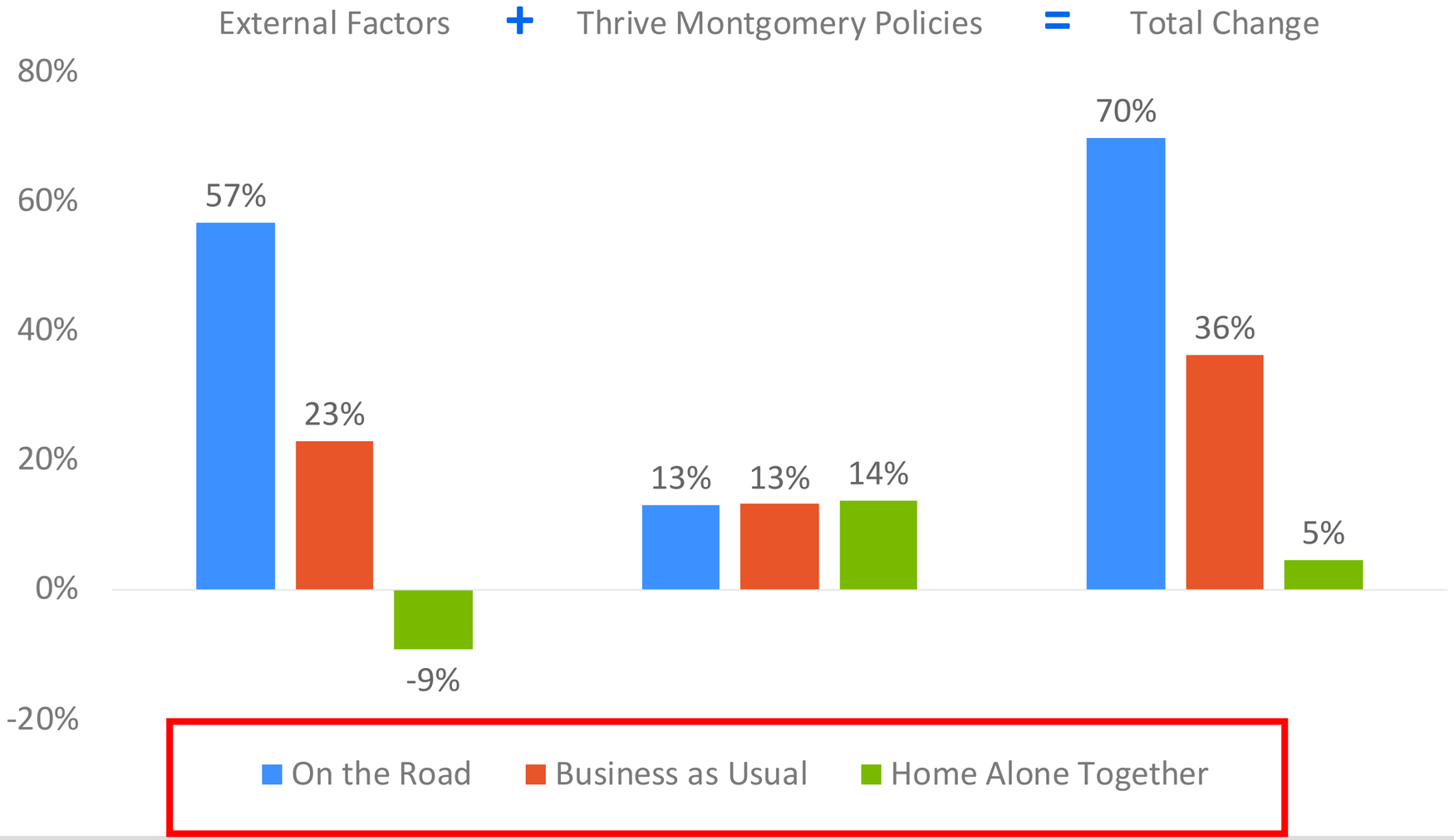
2015 = 3.2-million-person trips per weekday

Average Person Trips per Weekday



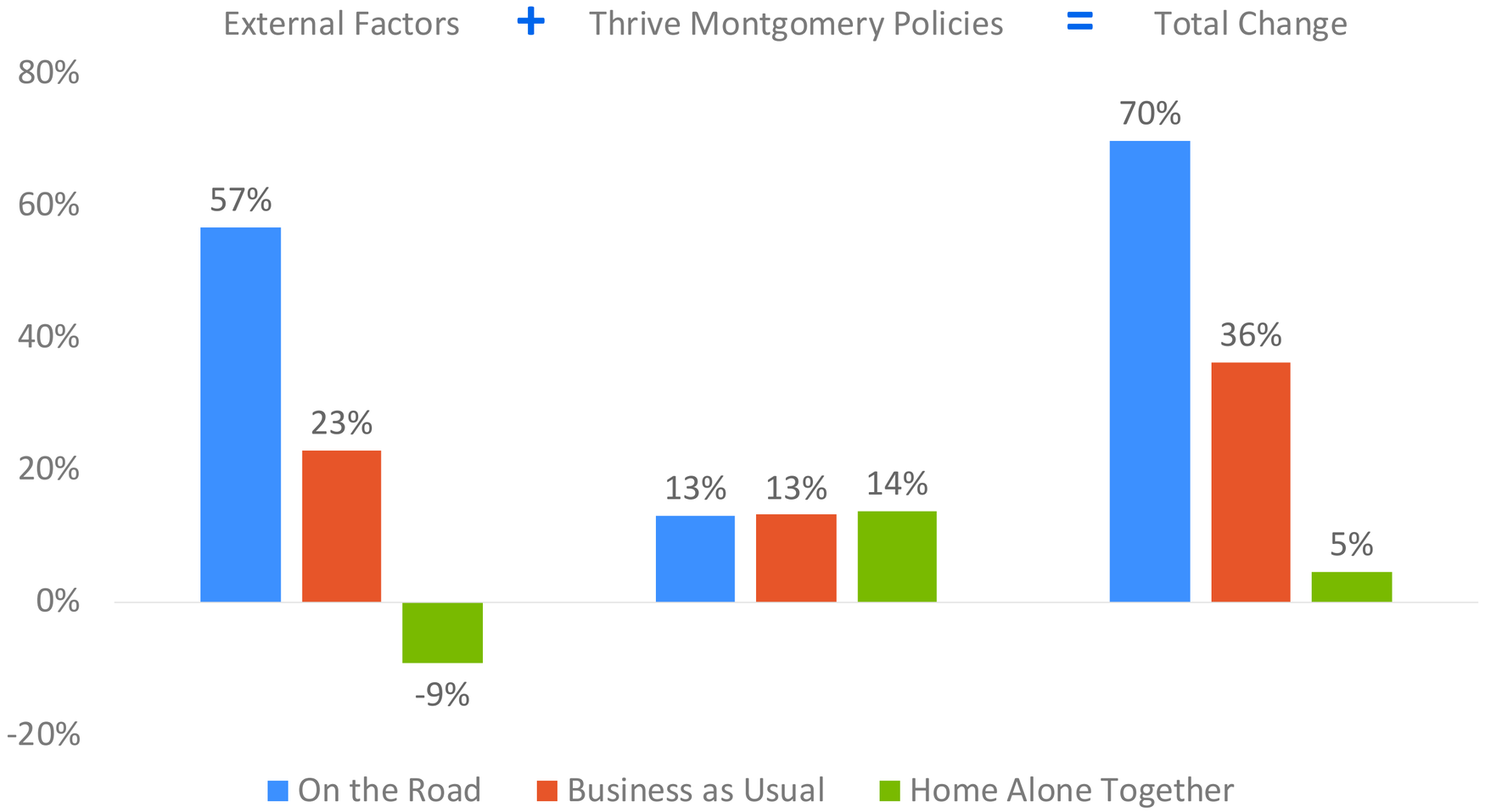
2015 = 3.2-million-person trips per weekday

Average Person Trips per Weekday



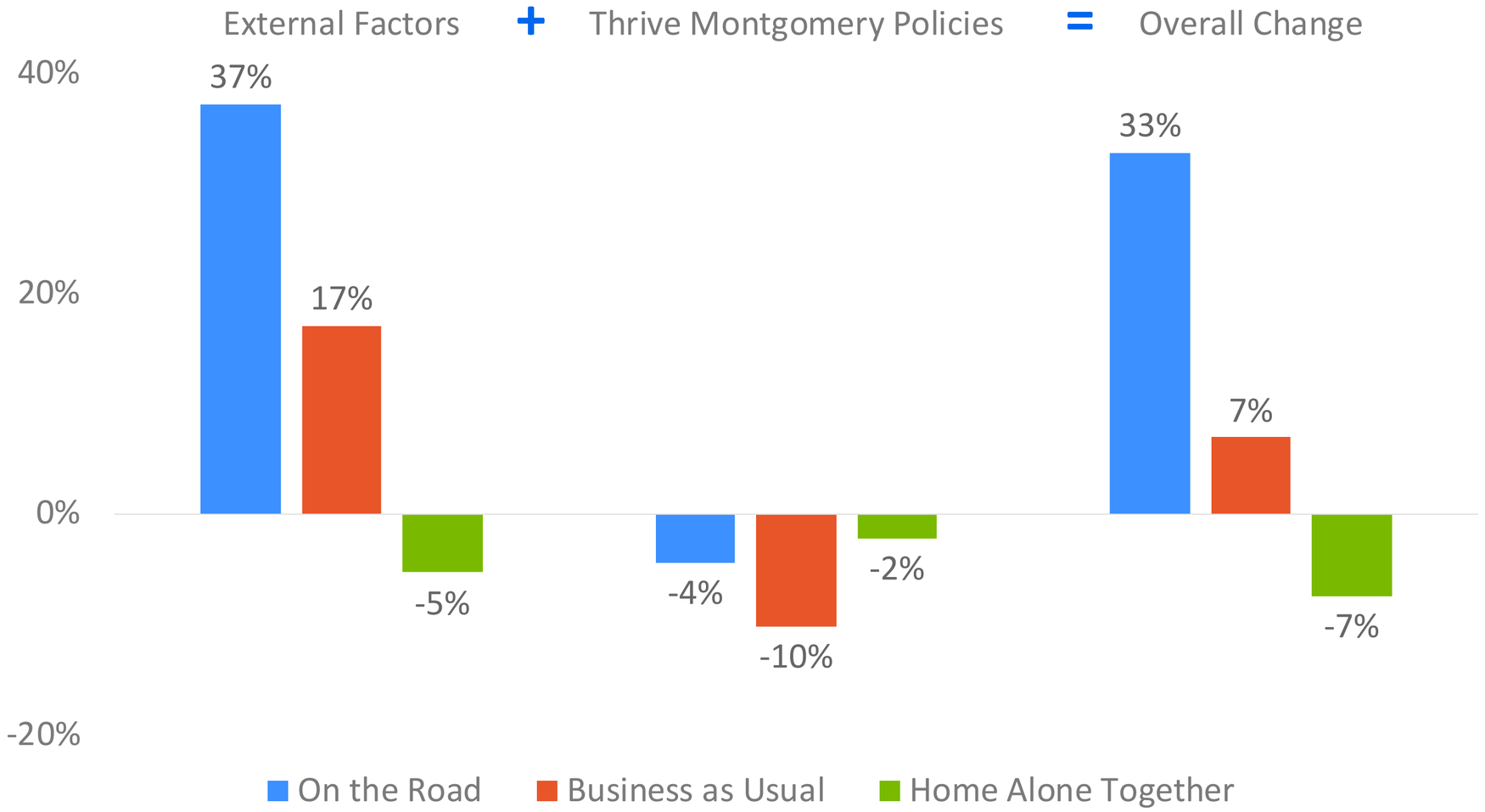
2015 = 3.2-million-person trips per weekday

Average Person Trips per Weekday



2015 = 3.2-million-person trips per weekday

Average Vehicle Trips per Weekday

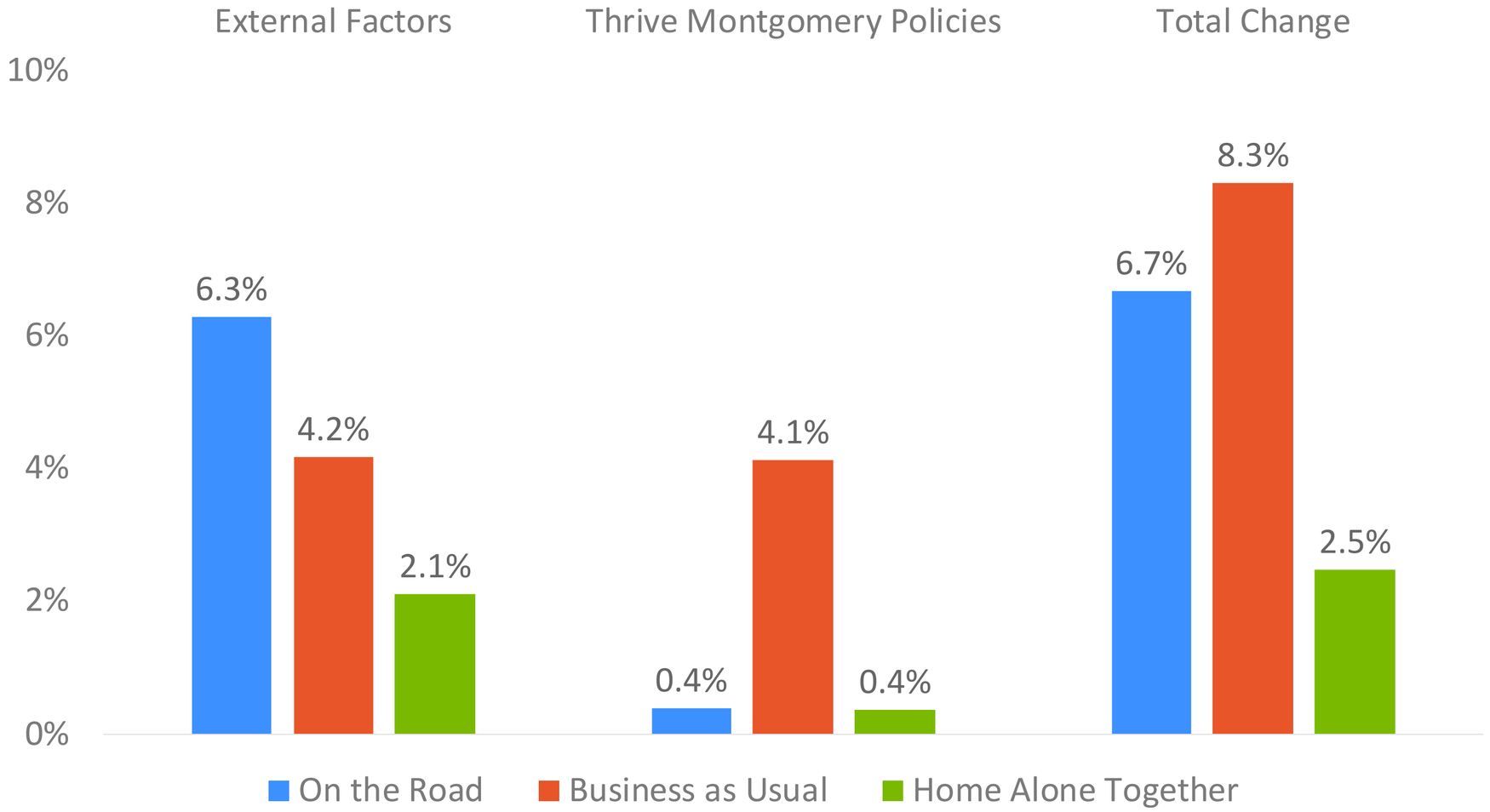


2015 =
2.3 million vehicle trips per weekday

Non-Auto Driver Mode Share

Share of person trips for which the individual traveler is not the driver of an automobile

Non-Auto Driver Mode Share (NADMS)

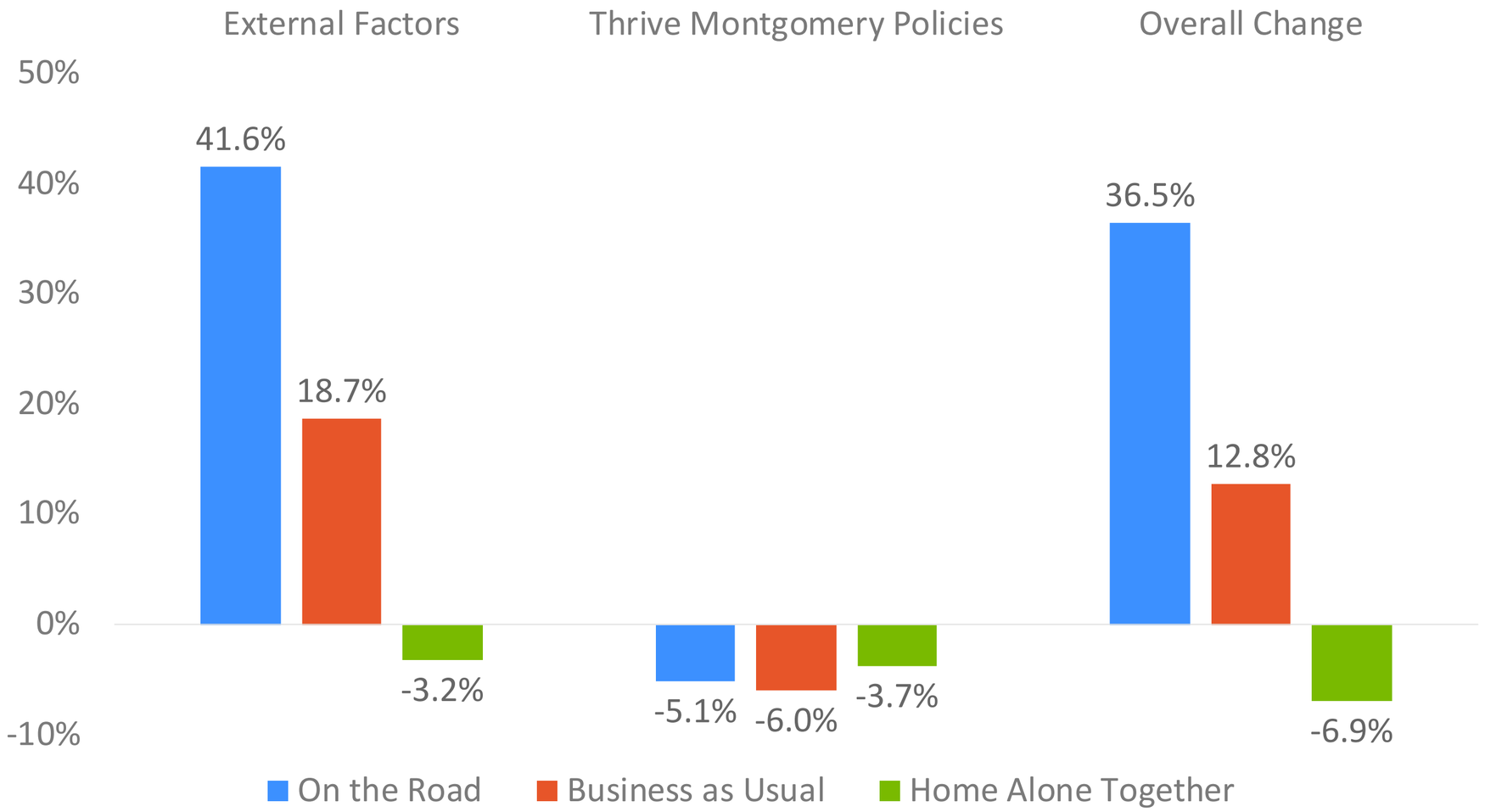


2015 =
41 percent

Vehicle Miles Traveled

Total daily miles traveled by motor vehicles

VMT: Trips Starting or Ending in Mont Co

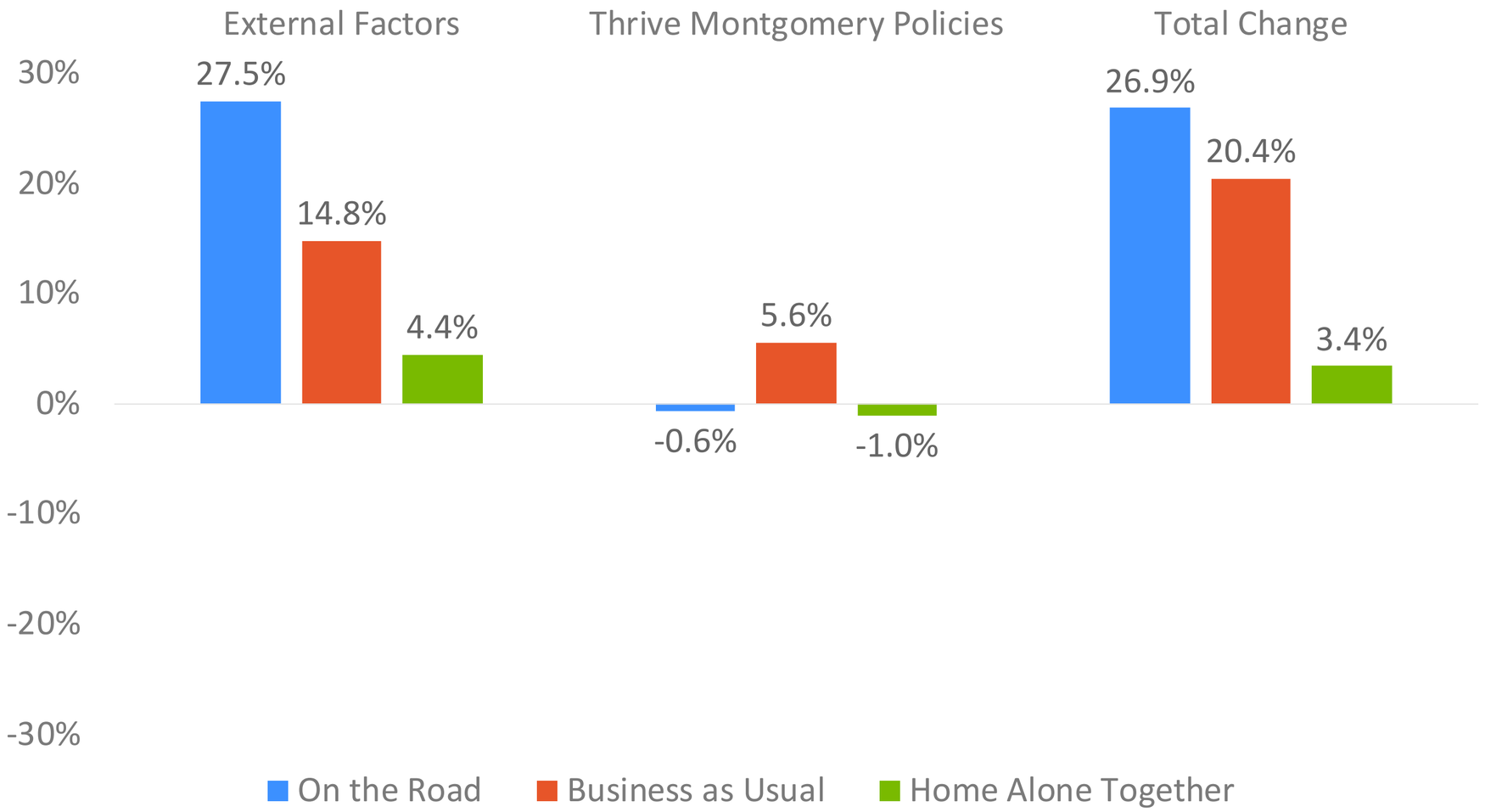


2015 =
20.2 million vehicle miles traveled per day

Travel Time Analysis

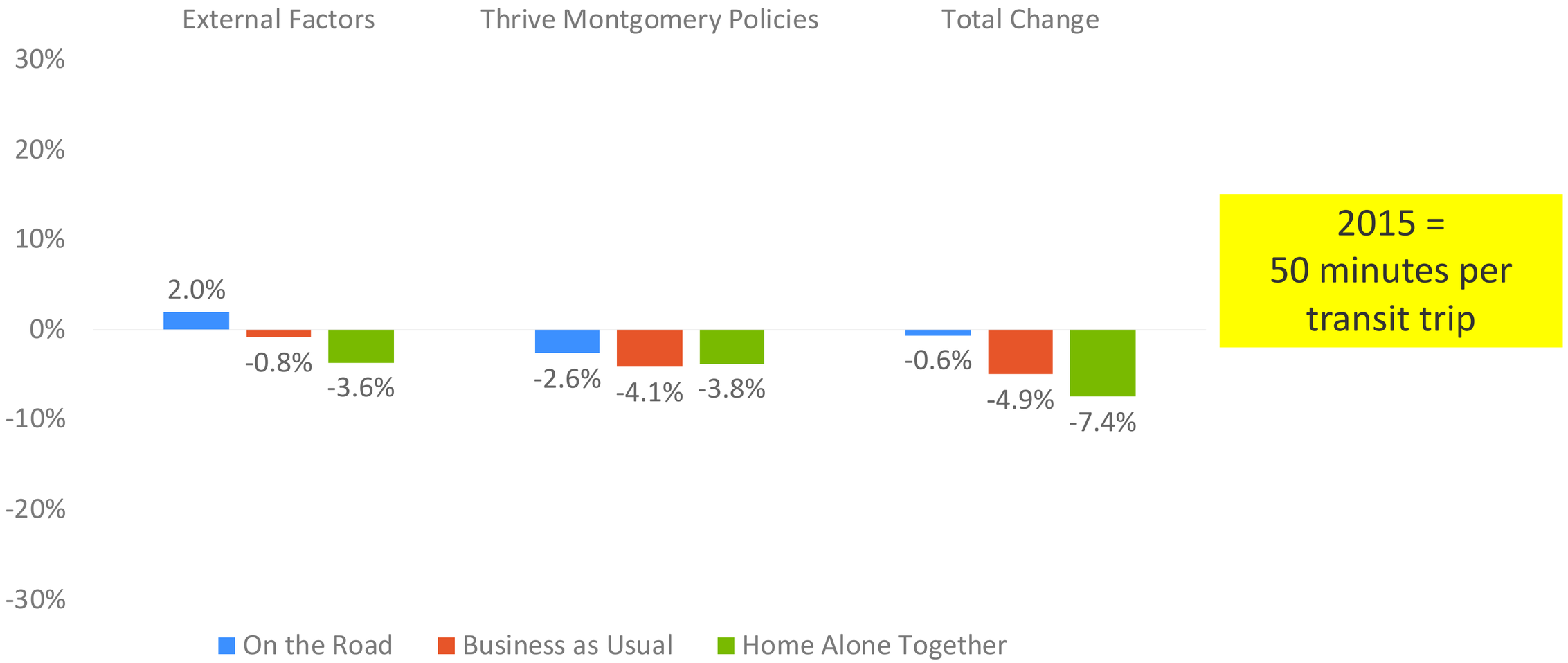
Time spent traveling by transit or auto

Change in Average Travel Time per Auto Trip



2015 =
18 minutes per auto trip

Change in Average Travel Time per Transit Trip

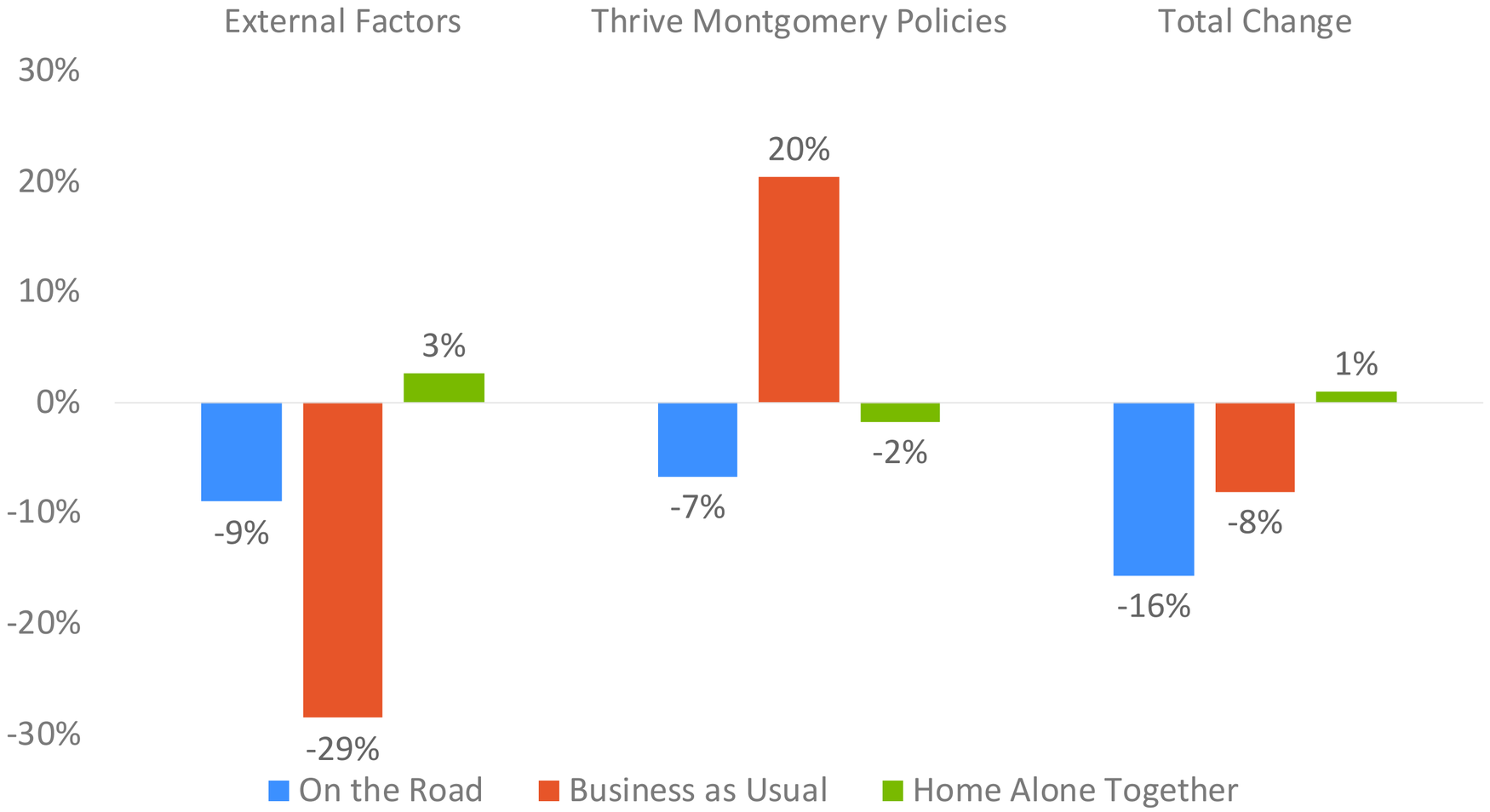


2015 =
50 minutes per transit trip

Job Access

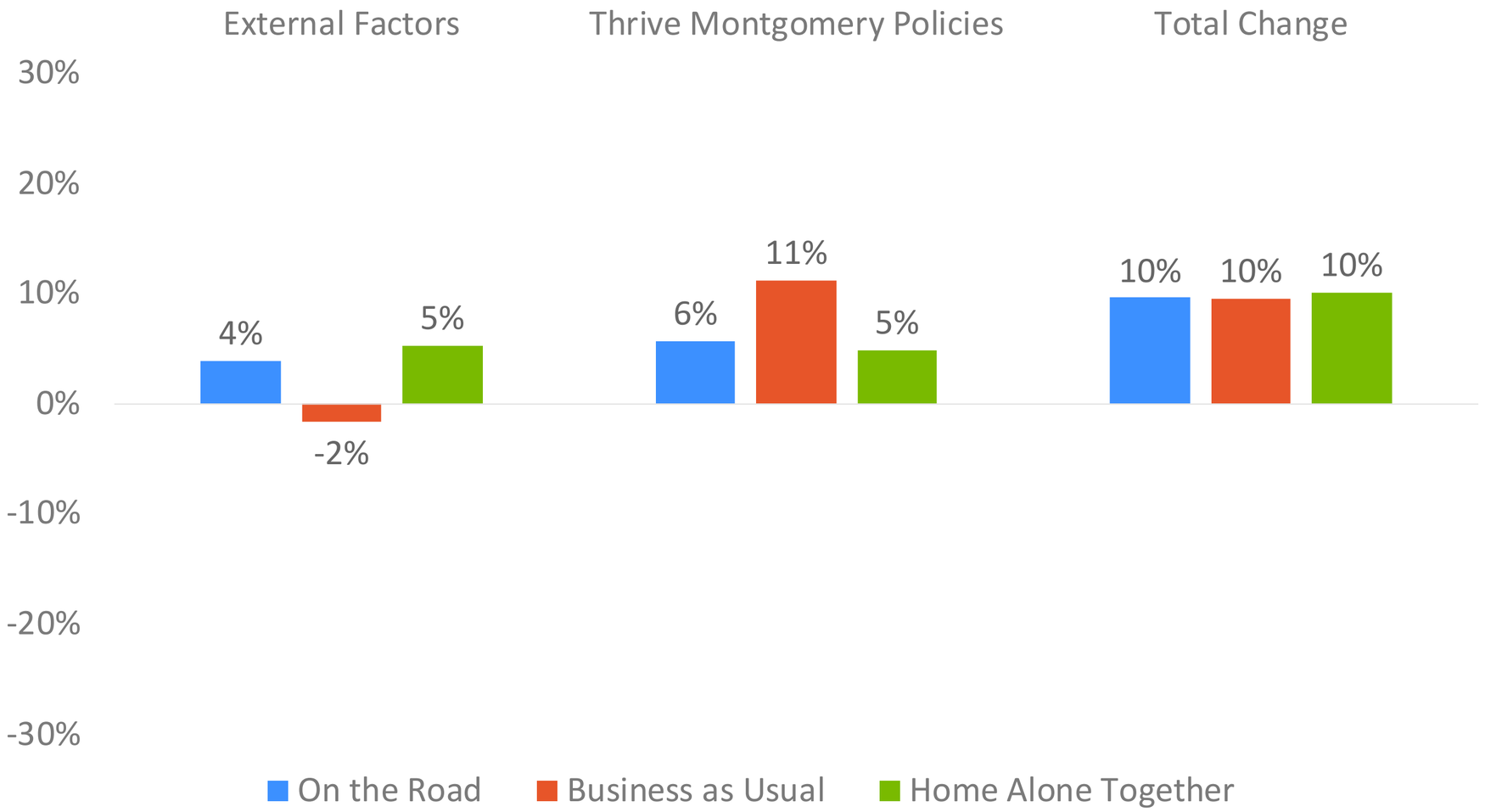
Average Jobs Accessible within 45 minutes

Auto Access to Montgomery County Jobs



2015 =
90 percent of local jobs

Transit Access to Montgomery County Jobs

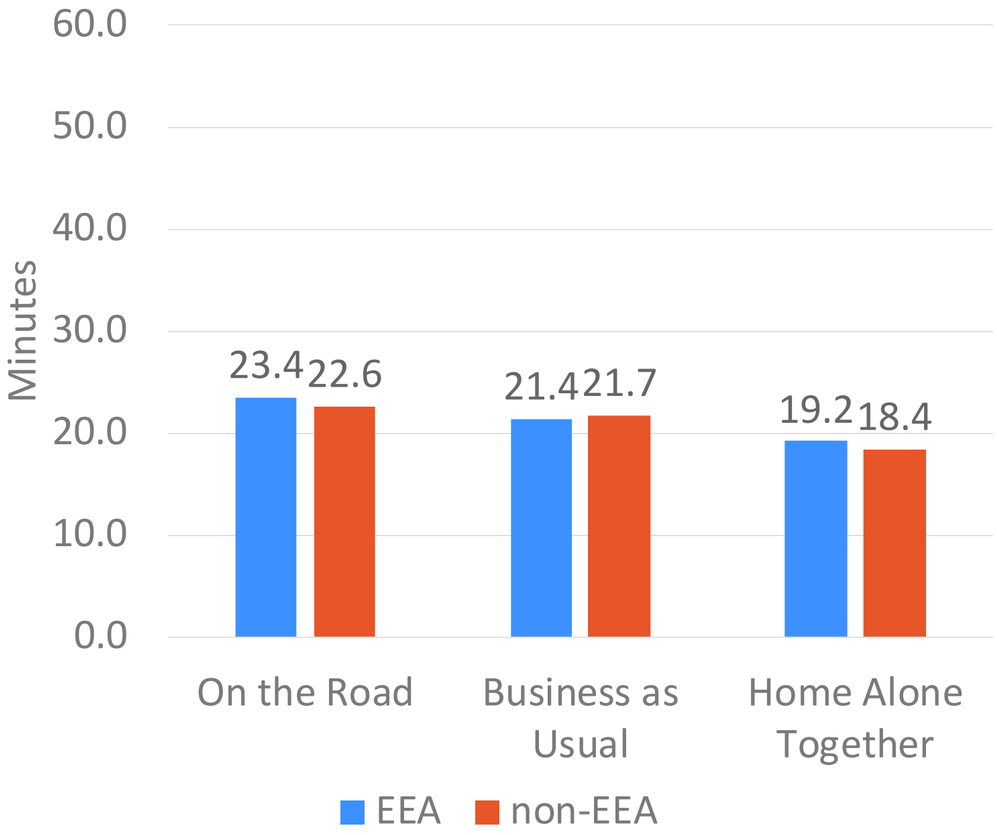


2015 =
12 percent of local jobs

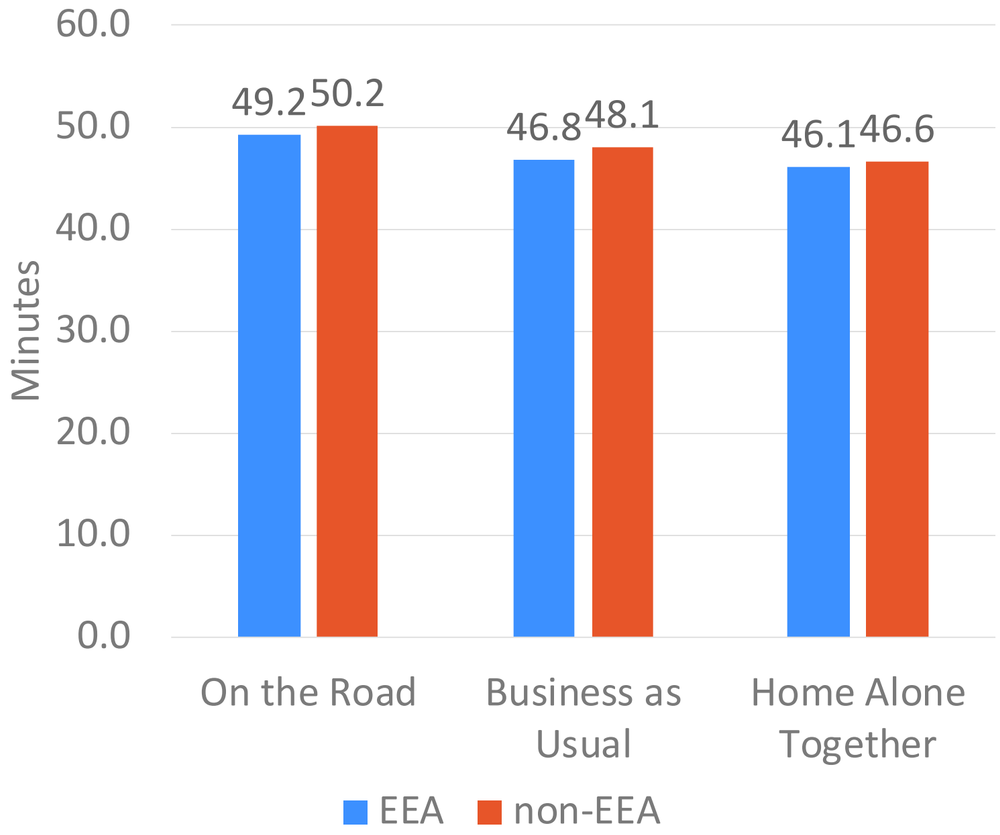
Equity Analysis

Average Travel Time per Trip by Mode

Average Travel Times per Auto Trip

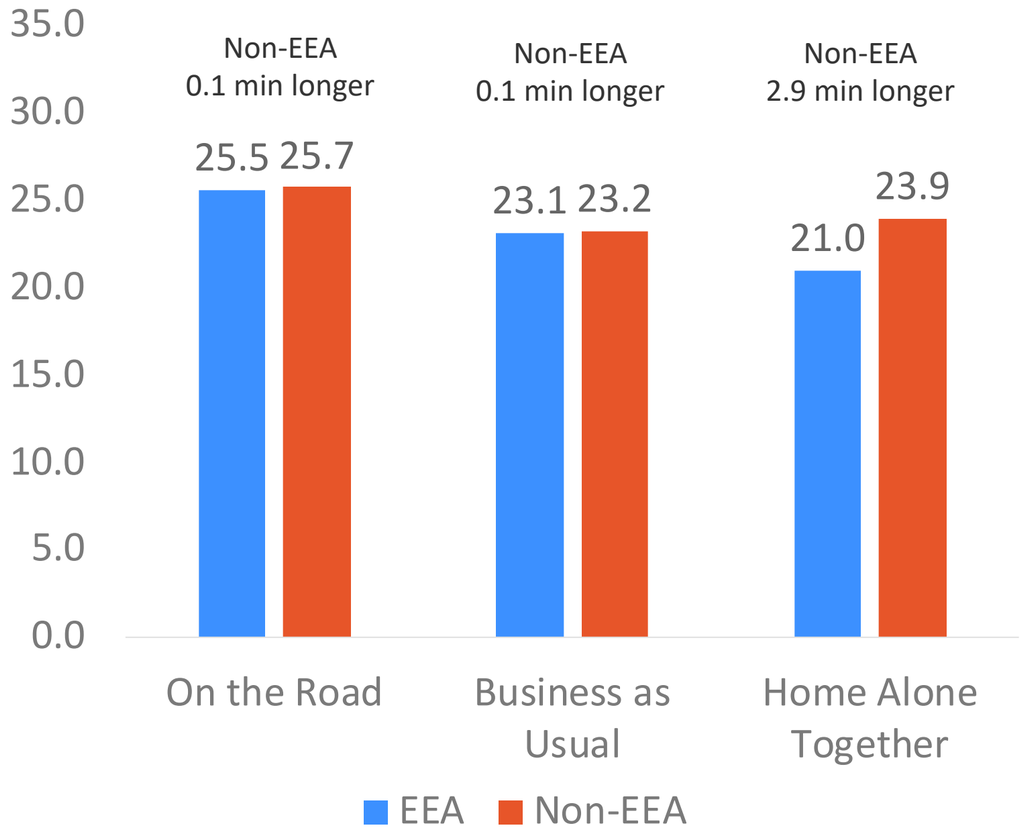


Average Travel Times per Transit Trip

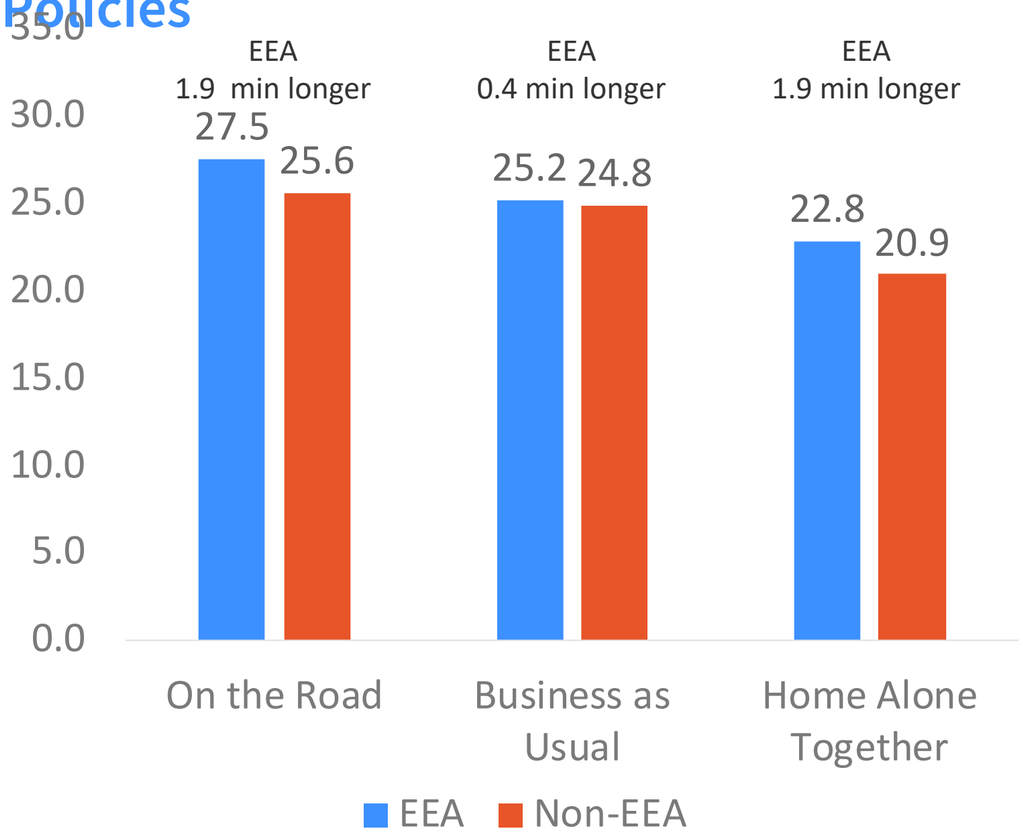


Overall Travel Time per Trip

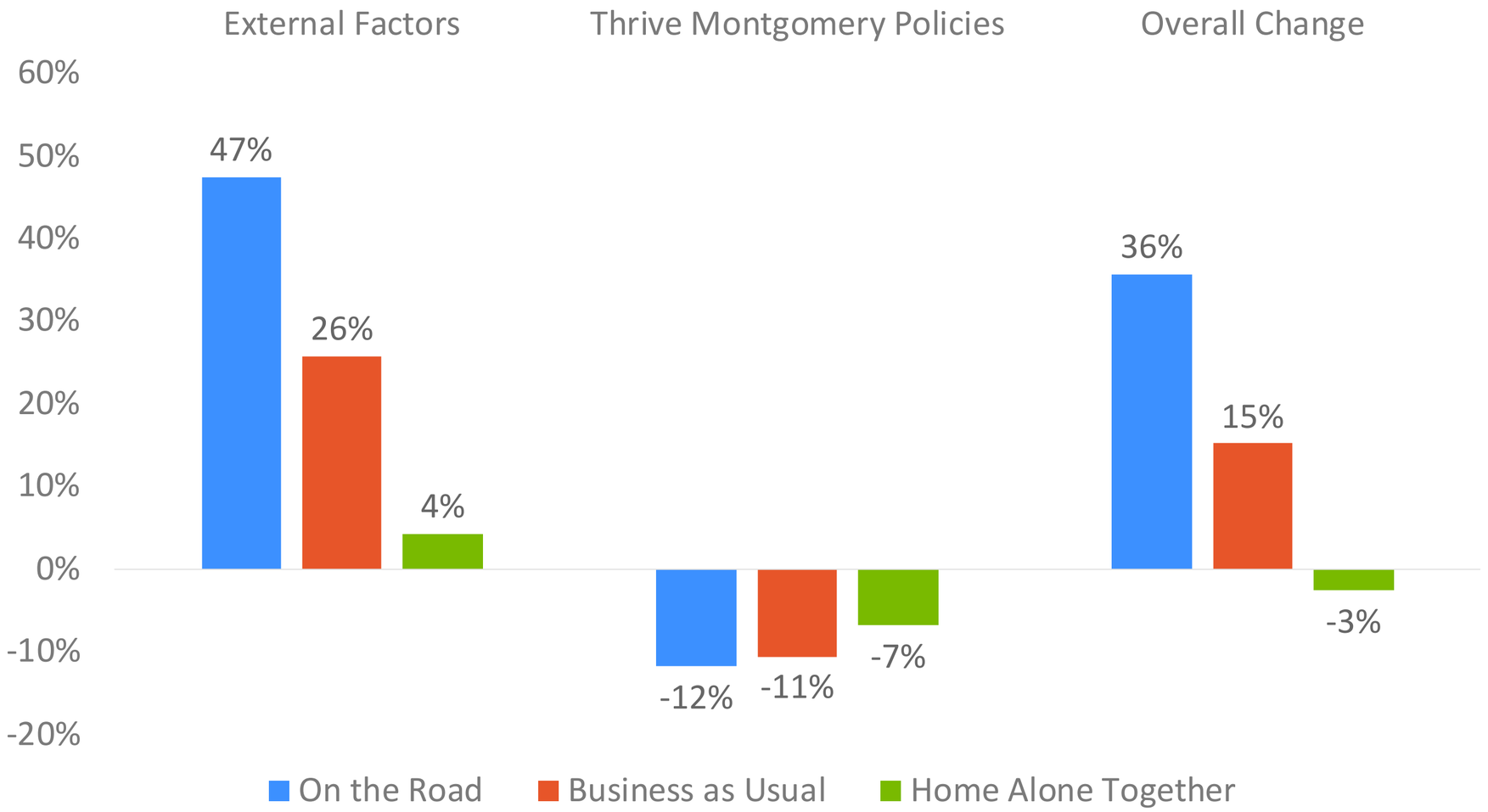
External Factors



External Factors & Thrive Montgomery Policies



VMT per Square Mile



2015 =
152,000 in EEAs
39,000 in non-EEAs

Conclusions

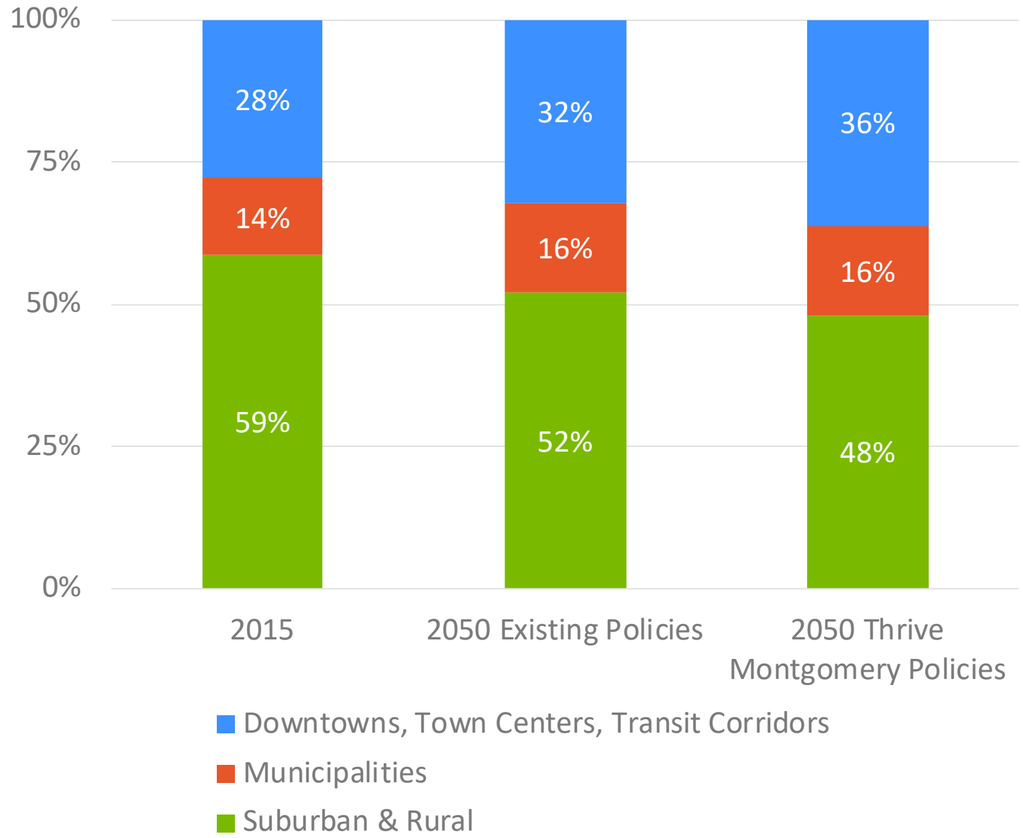
Comparison to Purple Line Project

	Reduction in VMT	Reduction in Vehicle Trips
Thrive Montgomery (2015 – 2050)	1,200,000	230,000
Purple Line (2010 – 2040)	129,828	16,790

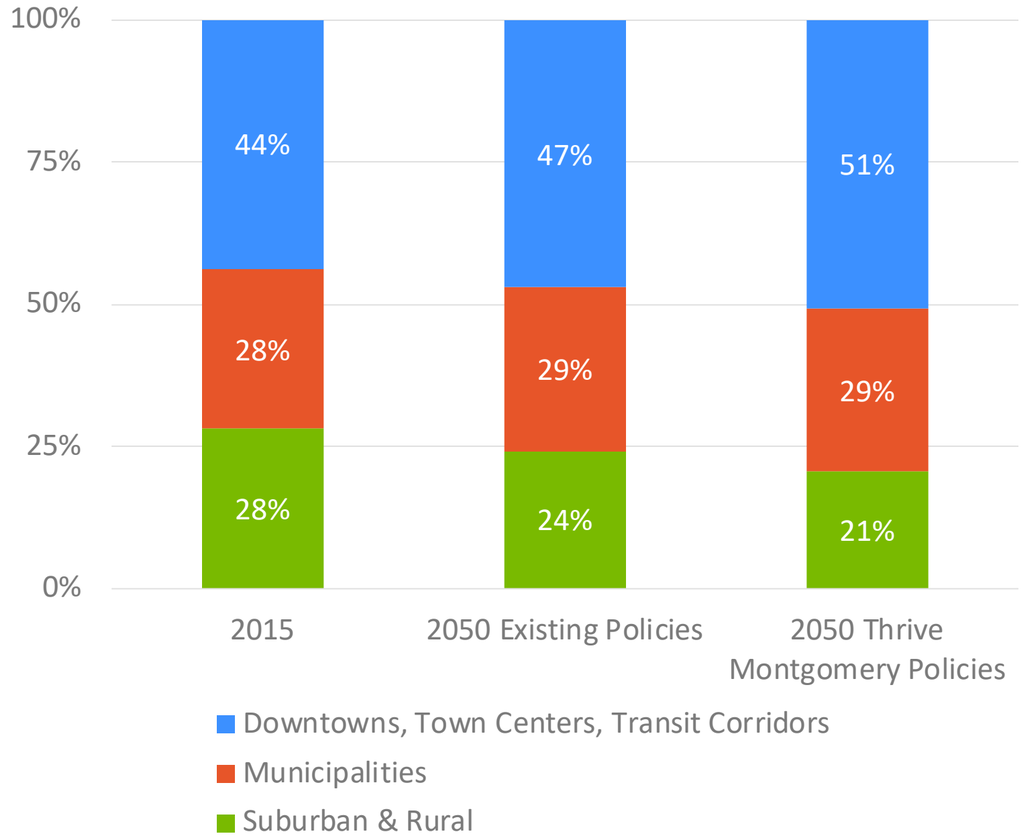
Source: Purple Line, FEIS, Volume 1, page 3-11 to 3-12

Land Use

Population:



Employment:



Land Use

Consider additional policies to shift existing population and jobs from suburban communities to downtowns, town centers and transit corridors.

Teleworking

Post COVID-19:

- **50% of employers anticipate a higher level of teleworking.**
- **20% of employers anticipate teleworking at pandemic levels.**

Source: MWCOG Survey, September 2020

Teleworking

Pursue an effort to maintain an elevated level of teleworking, while seeking to offset some of its negative economic and social impacts

Travel and Parking Pricing

Future studies are needed to determine appropriate travel and parking charges.

Questions?

Themes from the Public Hearing

Themes from the Public Hearing

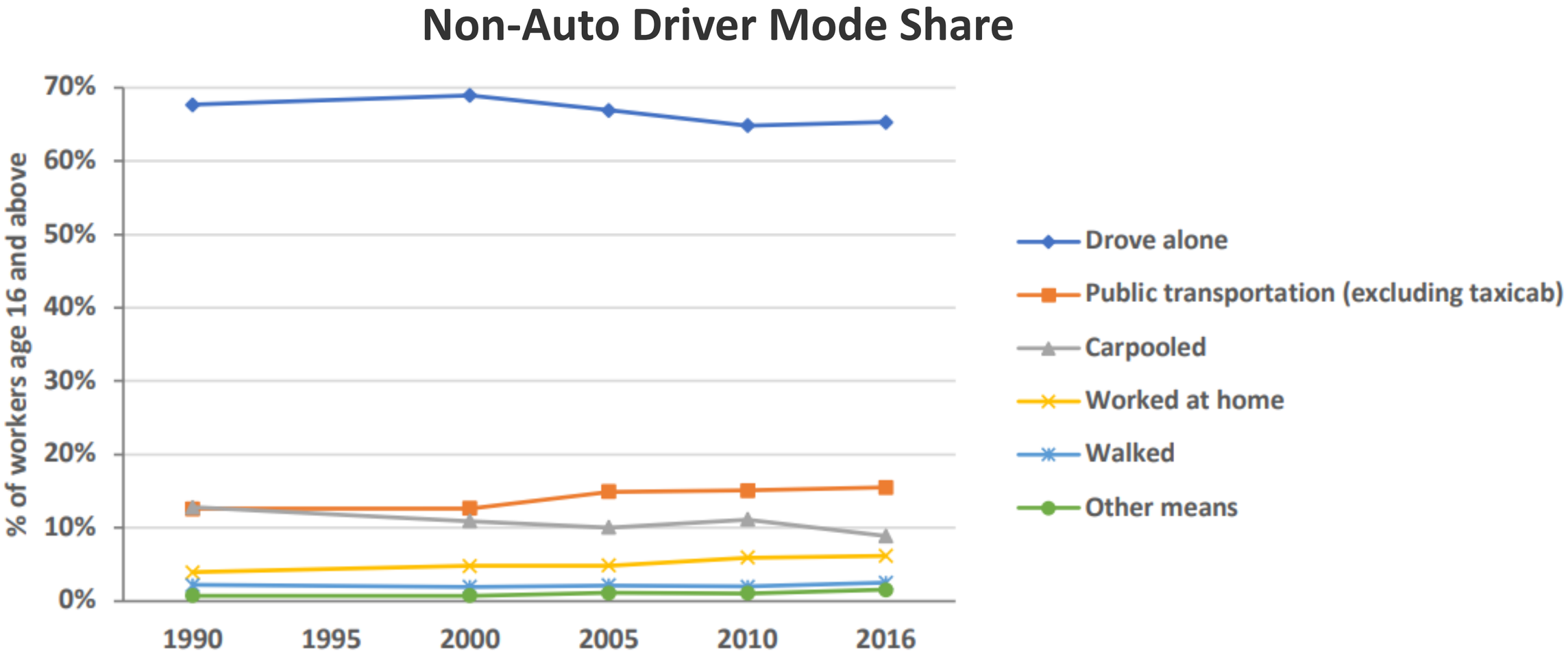
- **Public Transit**
- **Walking and Bicycling**
- **Start planning for people instead of planning for cars**
- **Reduction in parking**
- **Inequities in the transportation network**

Proposed Transportation Chapter

Organization

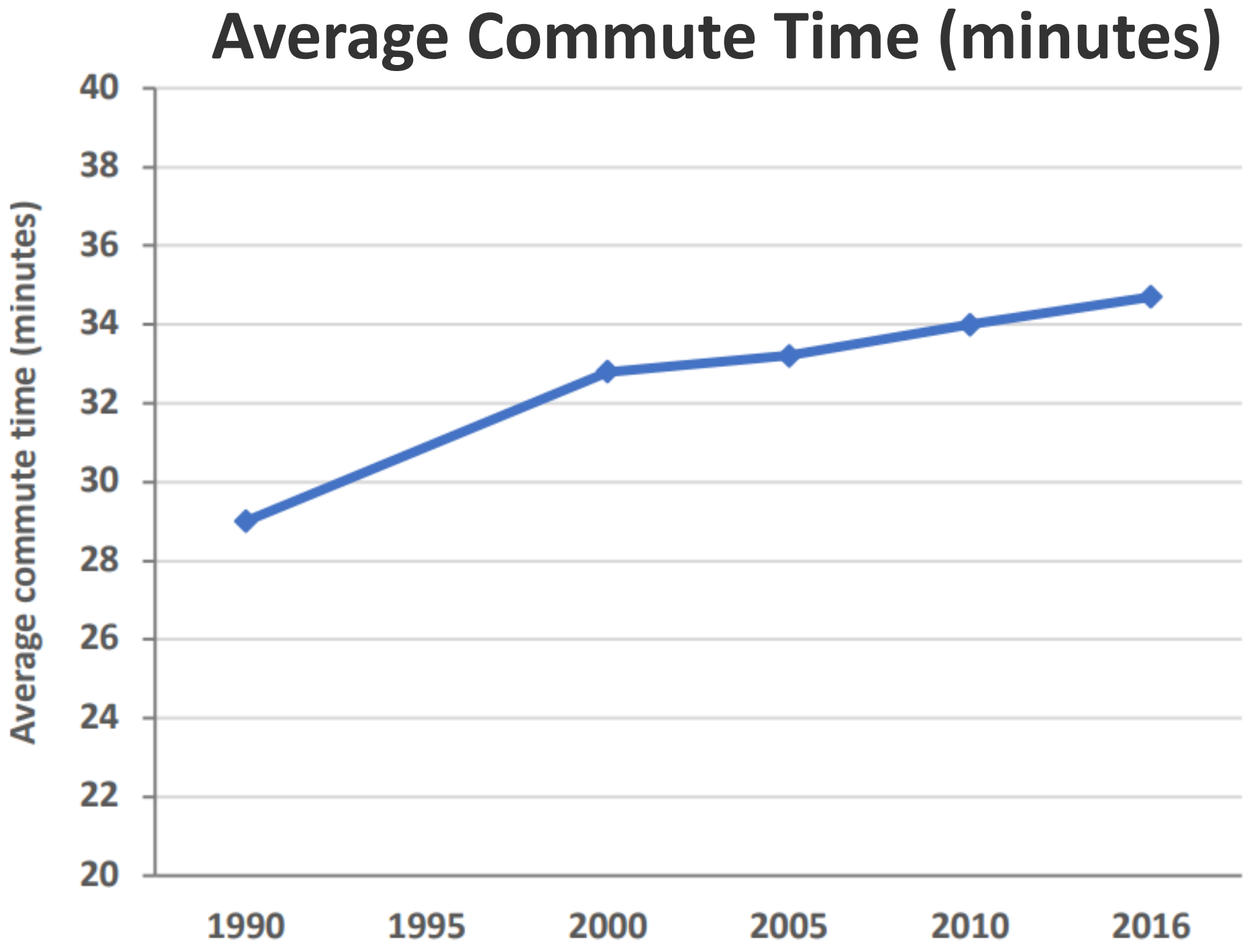
- **Part 1: What is the problem we are trying to solve?**
- **Part 2: What policies are going to solve those problems and further the key objectives of Thrive Montgomery?**
- **Part 3: How will these policies achieve this?**
- **Part 4: How will we know we are making progress?**

The Problem: Auto-Oriented Transportation



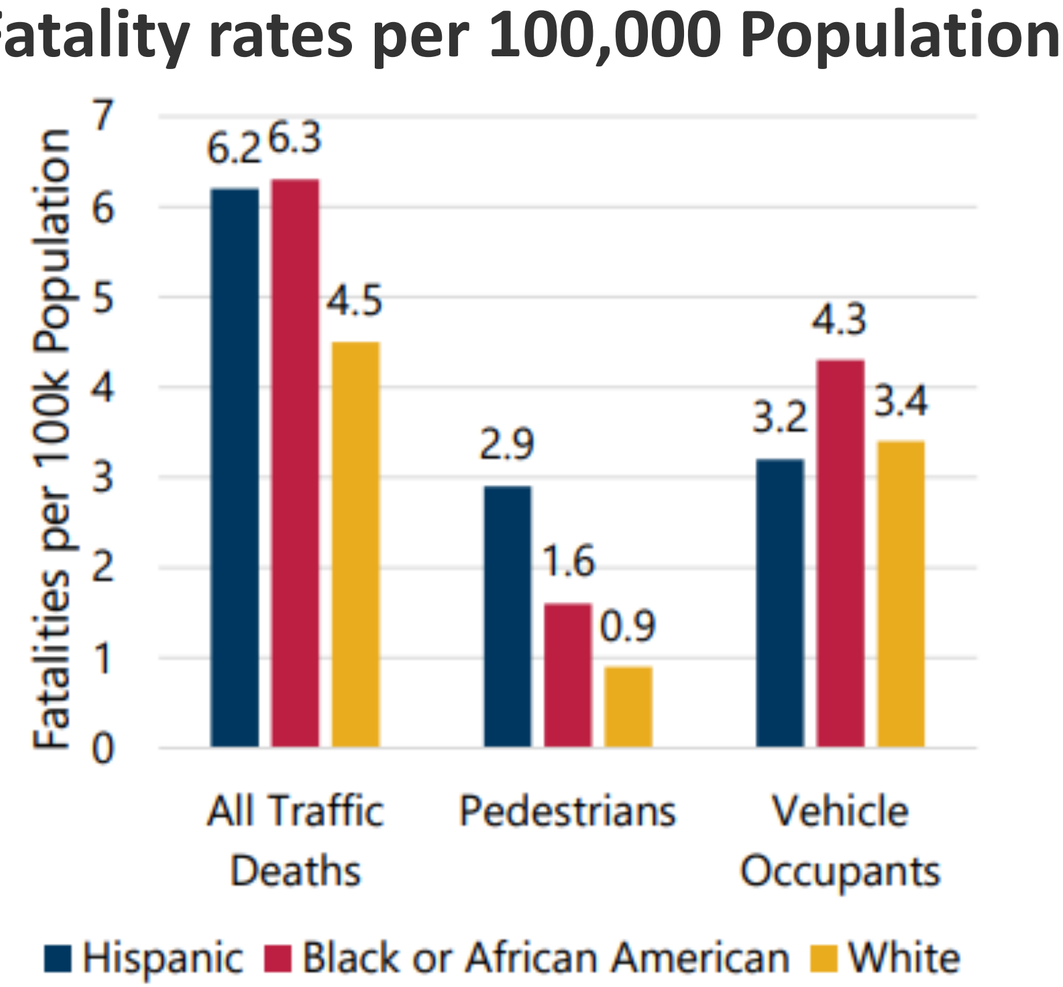
Source: Montgomery County Trends: A Look at People, Housing, and Jobs Since 1990

The Problem: Economic Health



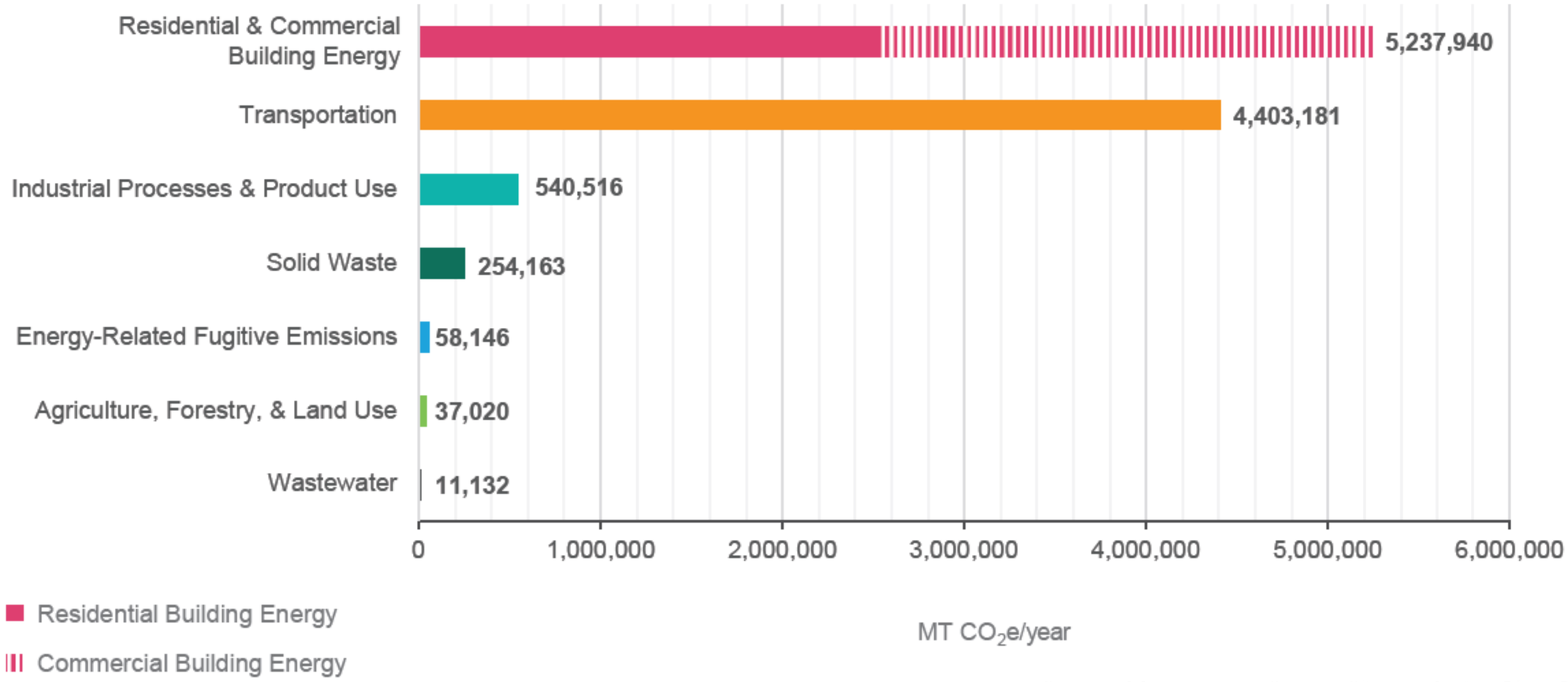
Source: Montgomery County Trends: A Look at People, Housing, and Jobs Since 1990

The Problem: Equity



The Problem: Environmental Resilience

Montgomery County 2018 Greenhouse Gas Inventory



Source: Montgomery County Climate Action Plan, Public Draft

Part 2: What policies are going to solve the problems?

- **Develop a safe, comfortable and irresistible walking and bicycling network.**
- **Build a world-class transit system:**
- **Adapt policies to reflect the economic and environmental costs of driving alone.**
- **Develop and extend advanced communications networks.**

Part 2: What policies are going to solve the problems?

Develop a safe, comfortable and irresistible walking and bicycling network:

- **Expand the street grid** in downtowns, town centers, transit corridors, and suburban centers of activity to create shorter blocks.
- Convert existing traffic lanes and on-street parking to **create space for walkways, bikeways and street buffers** with landscaping and street trees.
- **Prioritize the provision of safe, comfortable and attractive sidewalks, bikeways, roadway crossings**, and other improvements to support walking, bicycling, and transit usage in capital budgets, development approvals and mandatory referrals.
- Transform the road network by incorporating complete streets design principles with the goal of **eliminating all transportation-related roadway fatalities and severe injuries** and supporting the emergence of more livable communities.

Part 2: What policies are going to solve the problems?

Build a world-class transit system:

- Build a network of rail, bus rapid transit and local bus infrastructure and services that **make transit the fastest, most convenient and most reliable way to travel** to centers of economic, social and educational activity and opportunity.
- Convert existing general purpose traffic lanes to **dedicated transit lanes**.
- Prioritize transportation investments that **connect historically disadvantaged people and parts of the county** to jobs, amenities, and services.
- Ensure **safe and comfortable access to transit stations** via walking and bicycling.

Part 2: What policies are going to solve the problems?

Adapt policies to reflect the economic and environmental costs of driving alone:

- Employ **pricing mechanisms**, such as congestion pricing or the collection and allocation of tolls to support walking, biking and transit.
- **Manage parking efficiently** by charging market rates and reducing the supply of public and private parking.
- Encourage the **proliferation of non-polluting vehicles** by upgrading government fleets and requiring appropriate infrastructure.

Part 2: What policies are going to solve the problems?

Develop and extend advanced communications networks:

- Facilitate **construction of high-speed fiber optic and wireless infrastructure** and other information and communication technology to supplement transportation links with improved virtual connections.
- Focus investment in communications infrastructure and services to **connect people and parts of the county that lack convenient access** to jobs and educational opportunities.
- **Support teleworking** by accelerating deployment of information and communications technology and making working from home easier by facilitating Complete Communities.

Part 3: How will these policies achieve this?

- **Improve the equity of our transportation system by providing world class walking, bicycling and transit networks that will increase access to jobs and other opportunities, eliminating pollutants from our vehicles and by converting high-speed suburban arterials to safe and comfortable multimodal boulevards.**
- **Support economic health by offering residents and employees a menu of choices that make all forms of travel effortless and enjoyable, provide reliable travel times and redevelop parking lots to more productive uses.**
- **Enhance environmental resilience by providing irresistible alternatives to driving and by reflecting the environmental cost of driving to reduce vehicle miles traveled, while constructing a fine grain grid of streets, especially along our suburban corridors, to provide redundancies in our transportation network.**

Part 4: How will we know we are making progress?

- **Vehicle Miles Traveled (VMT): Down**
- **Non-Auto Driver Mode Share (NADMS): Up**
- **Person Trip accessibility for walking and cycling: Up**
- **Number of traffic-related severe injuries and fatalities: Down**
- **Transportation system's GHG emissions: Down**
- **Miles of auto travel lanes per capita: Down**
- **Teleworking: Up**
- **Motor vehicle parking per unit of development: Down**

Outline of Compact Growth Chapter

Organization

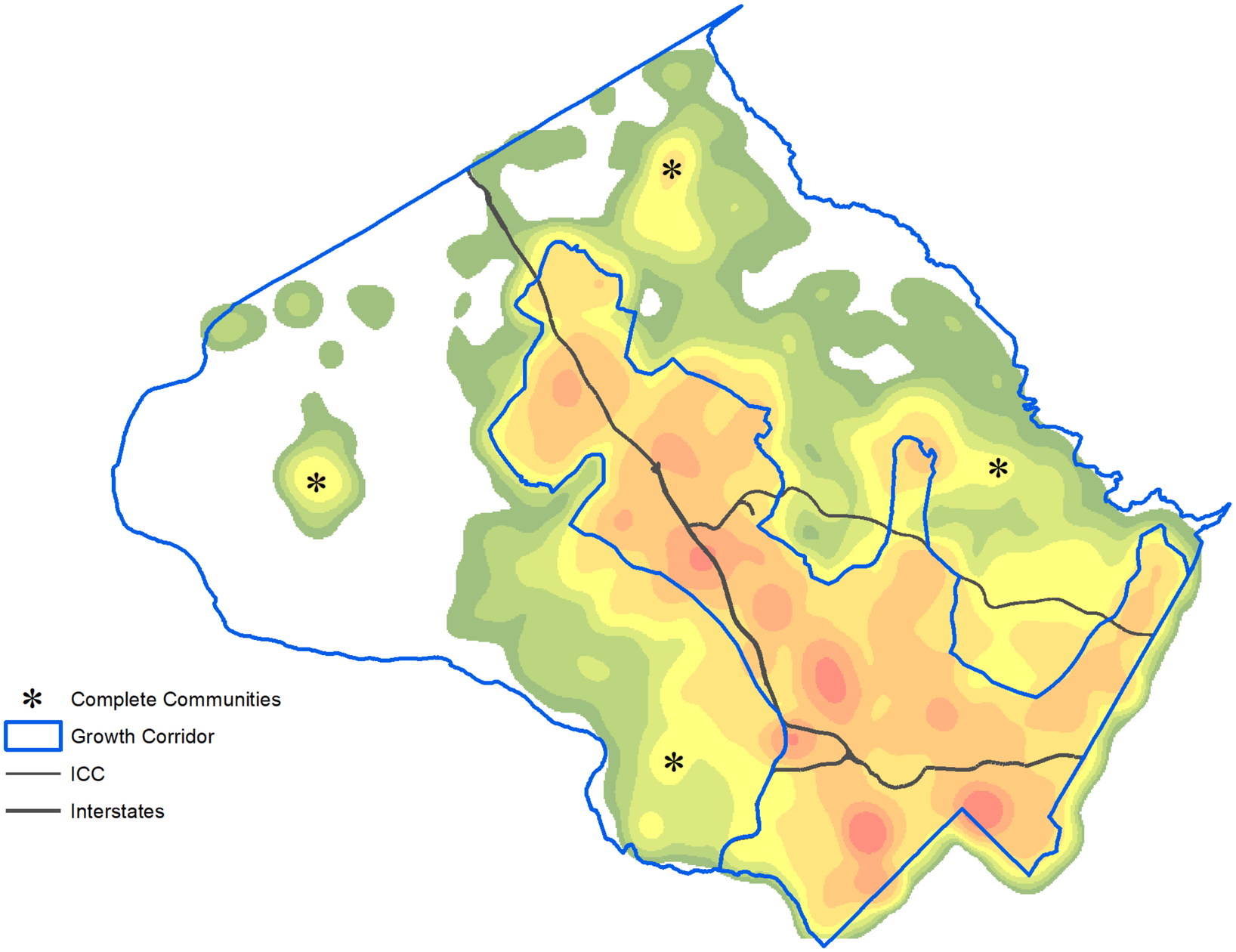
- **Part 1: What is the problem we are trying to solve?**
- **Part 2: What policies solve the problem?**
- **Part 3: How will these policies further the key objectives of Thrive Montgomery 2050?**
- **Part 4: How will we evaluate progress?**

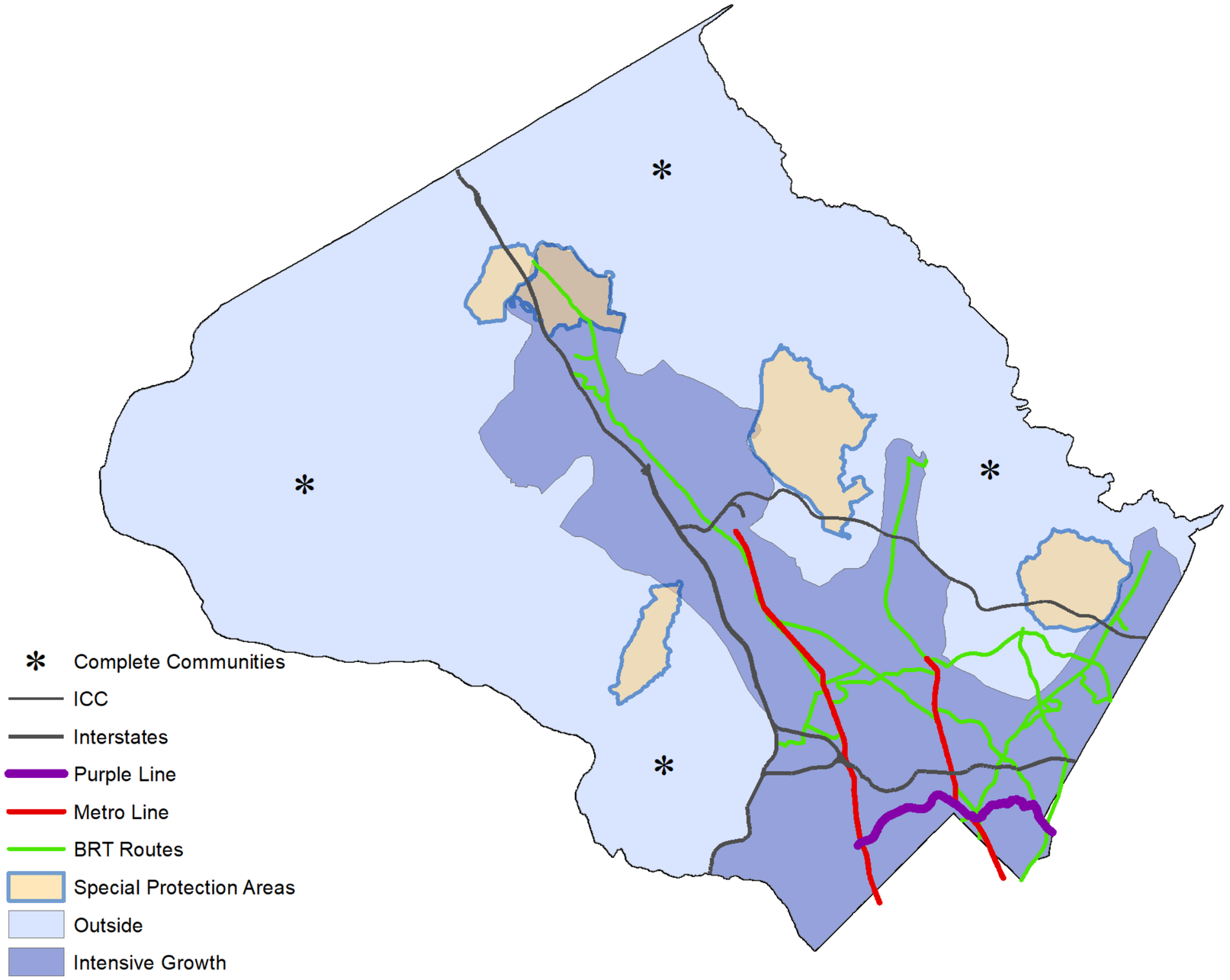
Part 1: What is the problem?

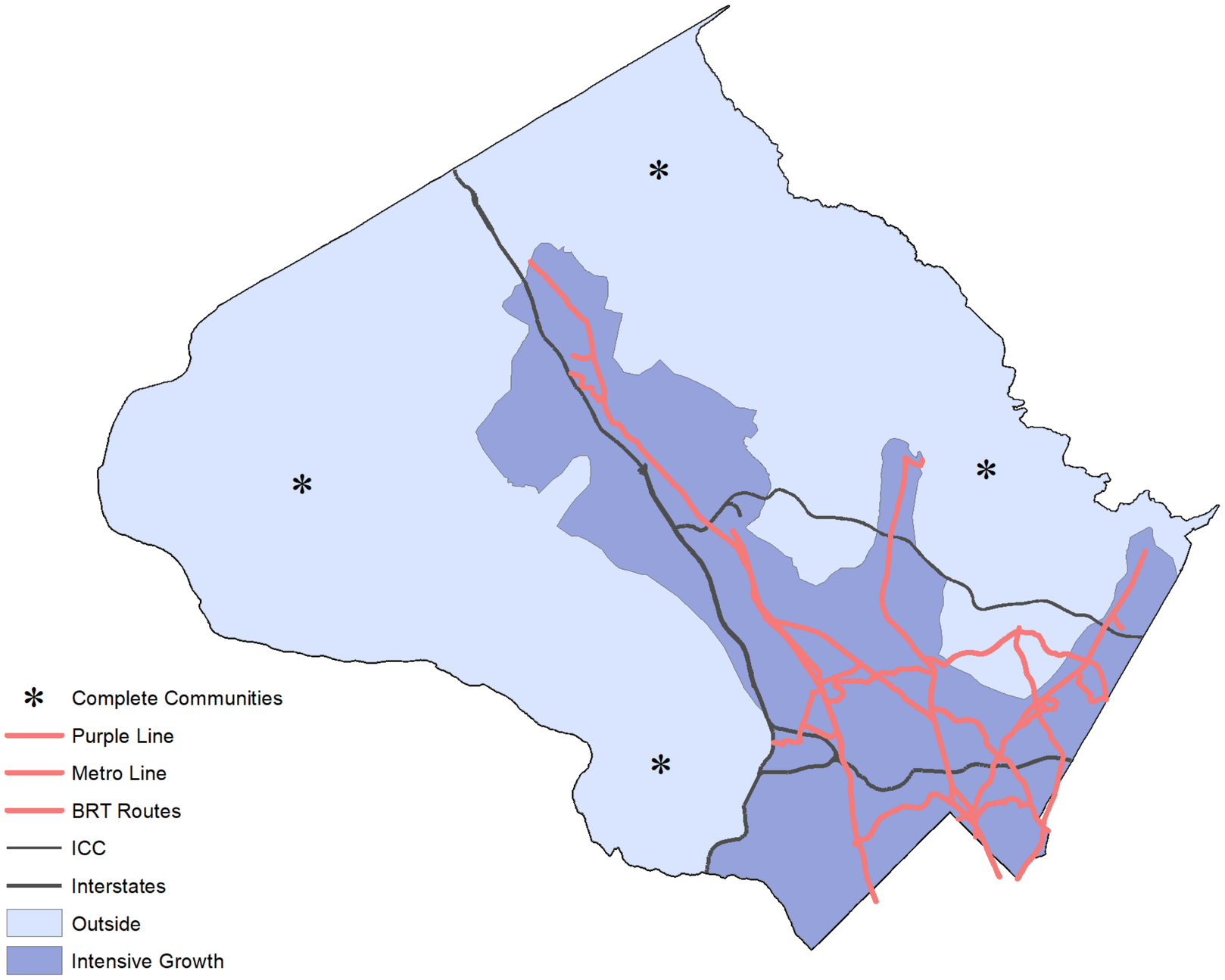
- **The county has not used land efficiently, resulting in the dispersal of development and infrastructure as well as the decline of land available for agriculture, recreation and environmental stewardship.**

Part 2: What policies solve the problem?

- **Concentrate growth along corridors through compact infill development and redevelopment.**
- **Prioritize public investment in infrastructure along growth corridors and leverage it to attract future private investment in a compact form.**
- **Limit growth beyond corridors to compact, infill development and redevelopment in Complete Communities.**
- **Preserve and enhance the Agricultural Reserve and manage the areas within the rural pattern of development for the benefit of the entire county.**


Complete Communities
Growth Corridor
ICC
Interstates


Complete Communities
ICC
Interstates
Purple Line
Metro Line
BRT Routes
Special Protection Areas
Outside
Intensive Growth


Complete Communities
Purple Line
Metro Line
BRT Routes
ICC
Interstates
Outside
Intensive Growth

Part 3: How do polices further objectives?

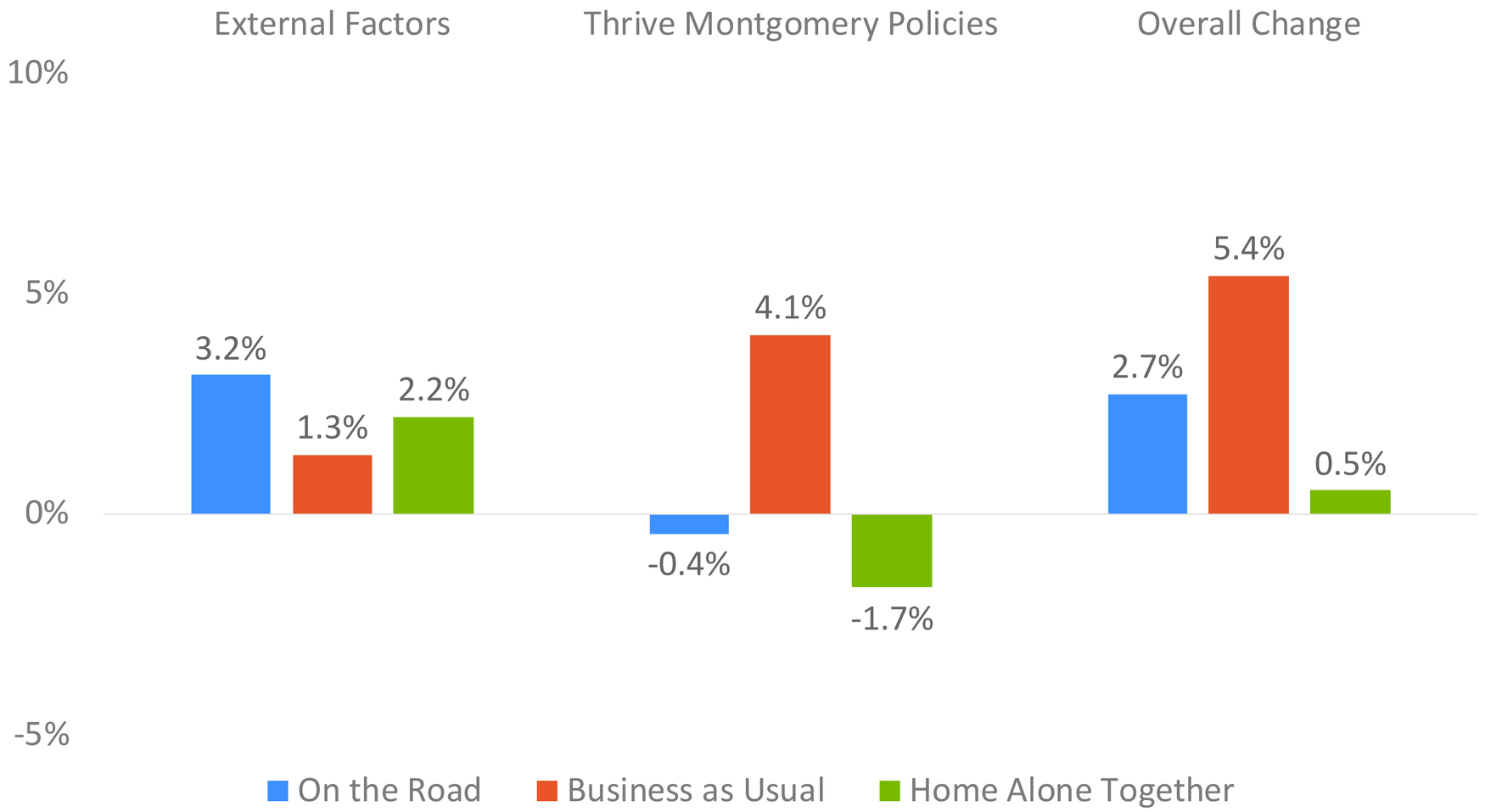
- **Compact, corridor-focused growth will allow the county to:**
  - **Continue to grow and remain economically competitive, while also preserving land for farming, recreation and resource management.**
  - **Direct population, employment and investment to locations served by infrastructure, create centers of activity and increase access to housing, jobs and services.**
  - **Improve environmental sustainability of development, including reduction of greenhouse gas emissions.**

Part 4: How will we evaluate progress?

- **In future plans, projects and proposals related to the efficient use of land, several relevant measures will be used to assess progress.**

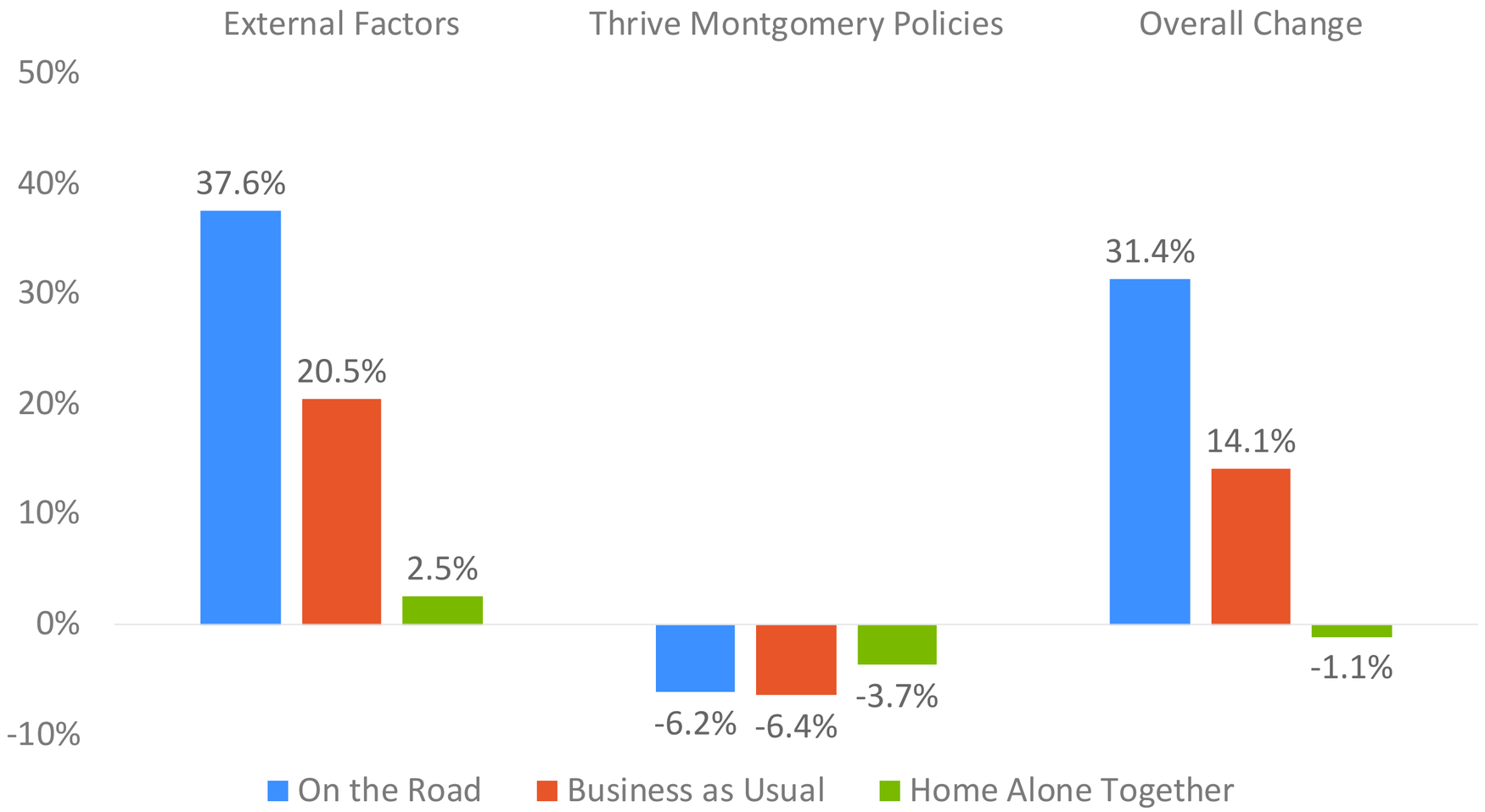
Backup Slides

Average Vehicle Trip Distances



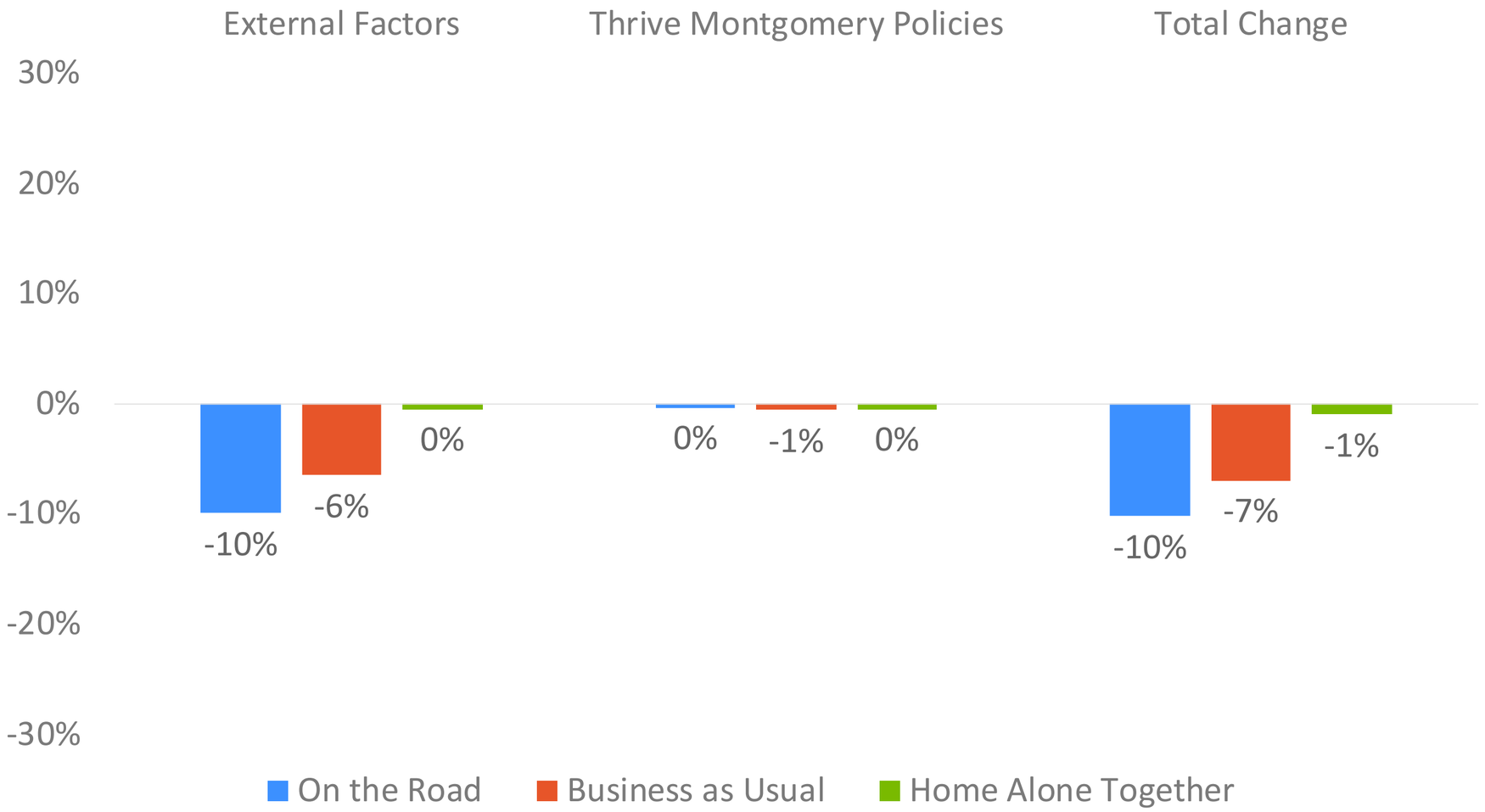
2015 =
8.8 miles

VMT: Roads in Montgomery County



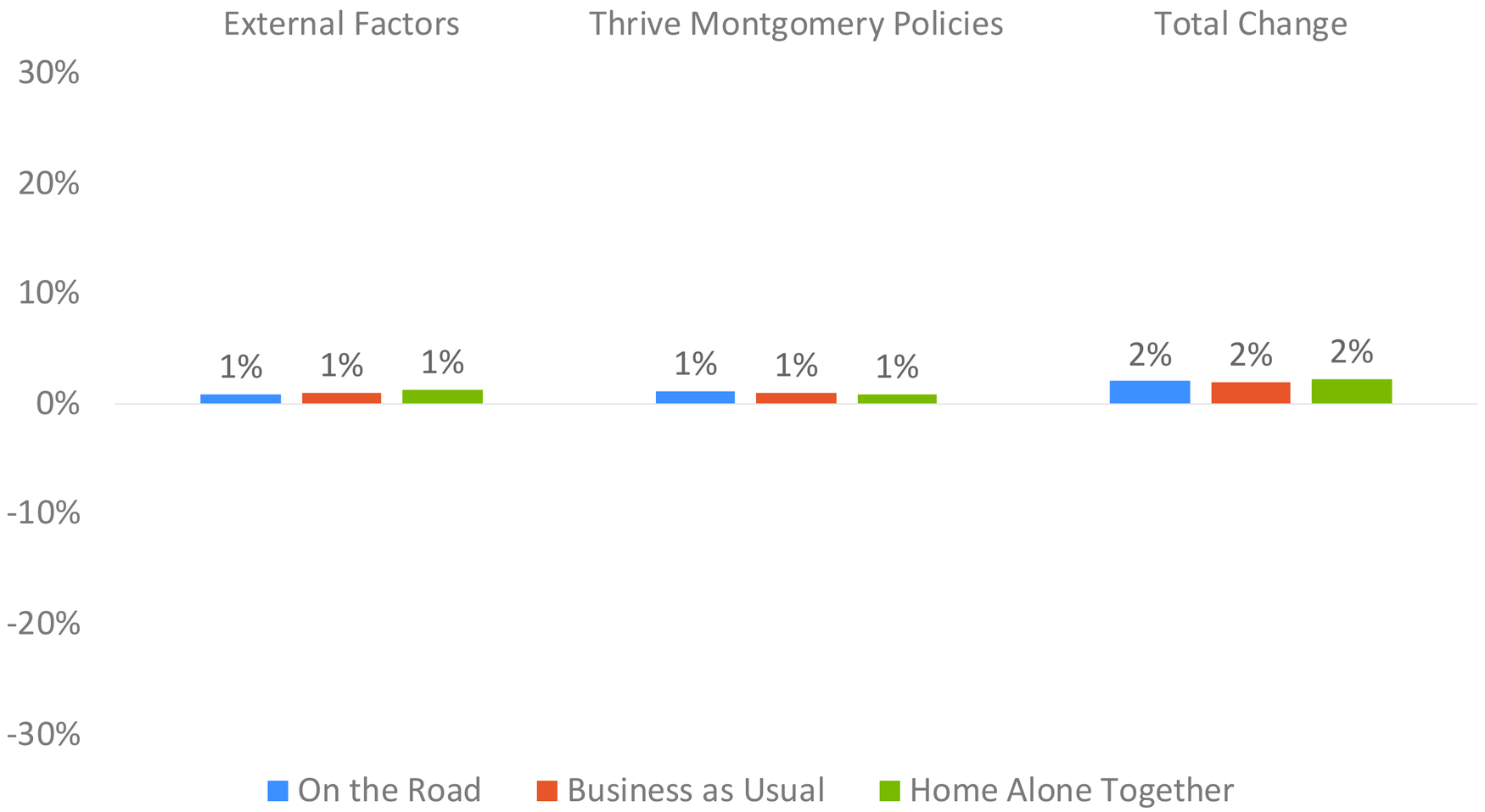
2015 =
24.1 vehicle miles traveled per day

Auto Access to Regional Jobs



2015 =
28 percent of
regional jobs

Transit Access to Regional Jobs



2015 =
3 percent of
regional jobs

2050 Scenarios

Alternative Futures	On the Road	Work Local, Play Local	Home Alone, Together	Hello from the Other Side
Technological Innovation	Tech enables travel	Tech enables travel	Tech replaces travel	Tech replaces travel
Economic Disruption	Outside business attraction	Organic growth	Organic growth	Outside business attraction
Employment Condition	Much more concentrated	Much more concentrated	More concentrated	More concentrated
Living Preference Condition	Less urban	More urban	More urban	Less urban
Climate Change	Land use removed from flood plain	Land use removed from flood plain	Land use removed from flood plain	Land use removed from flood plain

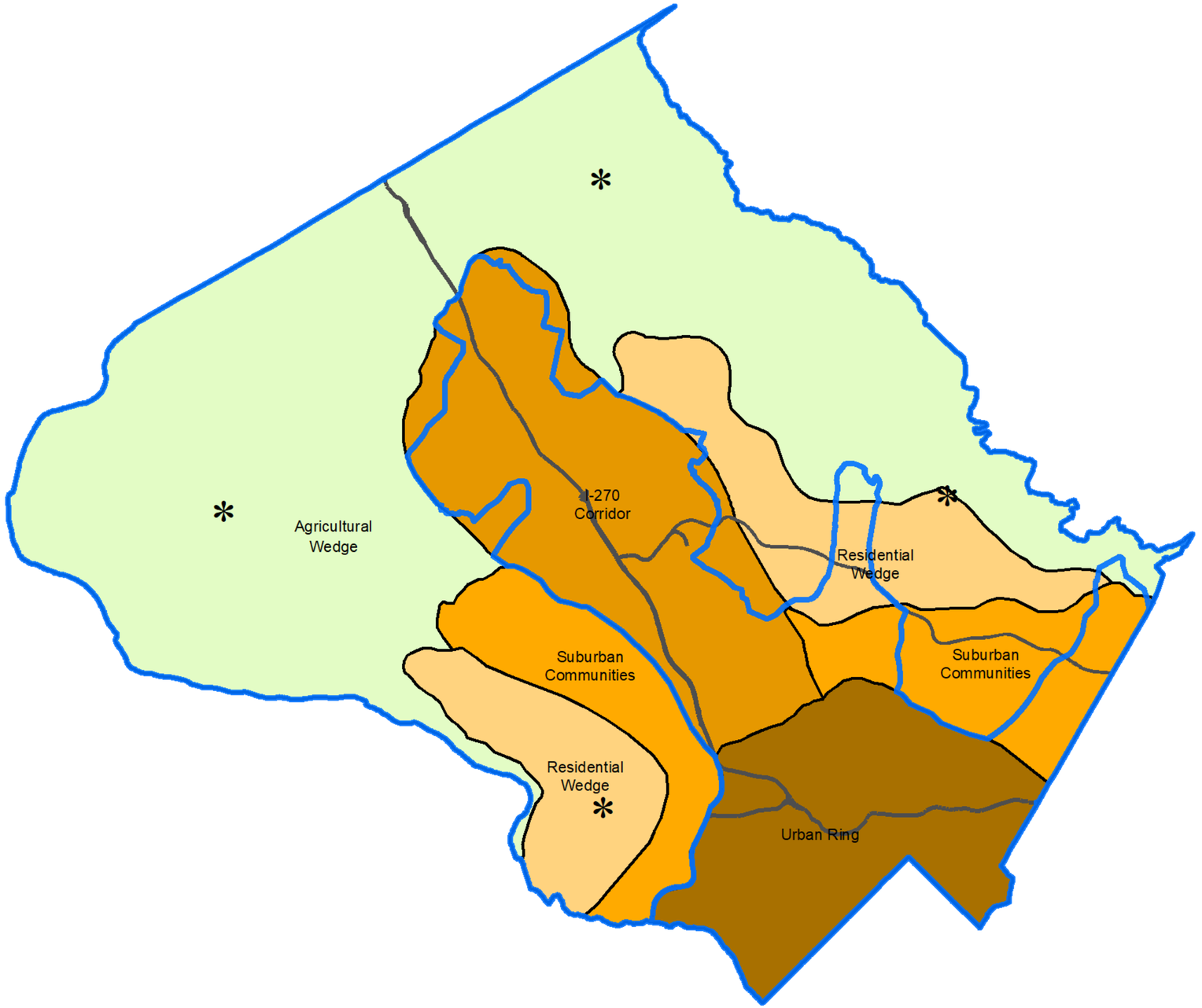
2050 Scenarios

Scenario	Land Use			Trip Generation	Trip Distribution*
	Employment Concentration	Preference for Urban Living	Flooding		
Business as Usual	n/a	n/a	n/a	n/a	n/a
On the Road	+40%	-50%	Reallocate	+25%	+50%
Work Local, Play Local	+40%	+50%	Reallocate	+25%	-50%
Home Alone, Together	+20%	+50%	Reallocate	-25%	-50%
Hello from the Other Side	+20%	-50%	Reallocate	-25%	+50%

* Relative attractiveness of long-distance trips

Three Changes

- **Land use**
  - **Living Preference: more urban or less urban**
  - **Employment Condition: more concentrated or less concentrated**
- **Trip Generation: number of trips produced by each household**
  - **Autonomous Vehicles → increase trip generation**
  - **Teleworking / virtual reality → reduce trip generation**
- **Trip Distribution: trip origins and destinations as reflected in trip length**
  - **Economy Condition: Outside business attraction → longer trips**
  - **Economy Condition: Organic business growth → shorter trips**


Agricultural
Wedge
I-270
Corridor
Residential
Wedge
Suburban
Communities
Suburban
Communities
Residential
Wedge
Urban Ring